

# SMOKE SIGNALS

*For Radio Amateurs • By Radio Amateurs*

Published Monthly Since 1969 • Our 28th Year

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## "TIME, GENTLEMEN"

By John Leekley, WB9SMM  
Section Emergency Coordinator  
Wisconsin Section  
American Radio Relay League



Is the Amateur  
Radio clock  
running down?  
Will you help  
keep it running?

I am sure you have heard that term before: The bartender has just announced that it is time to finish up and head for the door. You are through partying for another night. Shortly before that, he said: "last call". We in the Amateur Radio community have just heard the words "last call", and the party is going to be over very quickly if we don't do something. Very quickly, it is going to be "Time, Gentlemen".

I am sure you have heard the stories in the Amateur Press and on Newline about the proposal to "share" the 2-meter and 440 amateur bands. There has been less publicity, but just as much (if not more) pressure on the microwave bands. The bottom line is that these frequencies are extremely valuable -- on the order of billions and billions of dollars (sorry, Professor Sagan). We as amateurs have no claim on these frequencies other than the fact that years ago they were allocated to us. We have no financial muscle at all and no political muscle other than what we can generate through good will and plain old jaw boning. If we don't act immediately and in overwhelming numbers, in ten years our hobby will have shriveled considerably and in twenty it will be unrecognizable.

The Amateur Radio "Service" was established decades ago for four purposes: International goodwill, creation of a pool of trained technicians, public service (emergency preparedness), and advancement of the radio art. The first two purposes are irrelevant, only the last two have any application today. Very few of us can claim any ability to advance the radio art. We will have to leave that to the super-technical types.

All of which leaves us only the area of public service and emergency communications as a justification for the allocation of huge chunks of radio spectrum to what is otherwise essentially a hobby, not much different from fish fly tying.

In order for us to preserve our frequencies, we need to become heavily involved in public service and emergency preparedness and to make this involvement and the resources represented thereby apparent to our elected leadership so that they will in turn take the political steps necessary to assure the preservation of the frequencies allocated to the amateur service.

The figures vary depending on the source, but as a rule of thumb it is safe to say that no more than 10% of the amateur community is in any way involved in public service or emergency communications. I hate to tell you how many times an individual whose talents I know would have greatly benefitted the public service emergency preparedness area has said to me, "John, I am with you all the way, but I just don't have time. But when you really need me, give me a call, and I will be there".

Anyone who has been involved in this area at all knows that it is not possible to bring someone in cold and expect to get first class results. It takes time to learn the

procedures and get up to speed. The "call me" approach is just plain not helpful. It is imperative that everyone get involved now on an active basis, and that they stay involved, so that the community is blanketed with ham radio operators helping out at every walk, bike-a-thon, parade, whatever, and that this outpouring of effort be documented and that the politicians be made aware of it in a positive way.

Second, and almost importantly, it is necessary that the selfishness, immaturity, and childishness that pervades so many parts of this hobby end immediately. For some reason, there is a significant percentage of the ham population which seems to think that they have something special claim to being right, and that they are permitted to dump on those they believe to be wrong. How many times have you heard someone throw up their hands in despair saying something along the lines of "this is supposed to be a hobby"? On air jamming, back biting, rumor mongering, and just plain nastiness in and between clubs and individuals within clubs: All of this has to stop. It drives good people away, it wastes resources, it makes us look foolish in the eyes of the public and it diverts us from our primary task, which is to preserve this hobby for ourselves and future generations.

Thirdly, we need to provide tangible support at the national level to the ARRL. I read somewhere where only one-third of the licensed hams are members. You must join now so that your dues can support the effort. If there is a request for additional funds, we need to respond to that as well. I don't care if you don't like some of their policies or for one reason or another your nose has been bent out of shape. It's the only game in town. There is no other national representative of the ham community. So bite the bullet and pitch in. Get active in league affairs if you want to change things. But don't just sit there and bitch and moan, because it won't do anybody any good.

"Last call, Gentlemen". I can't do it alone, you can't do it alone. Everybody has to join in. There are plenty of jobs to do, more than enough to absorb all the talents and abilities of our membership. It must be a massive effort, everyone must be involved. If we pull together starting now, we may be able to staunch the loss of our frequencies without significant damage. The longer we wait, the more quickly the point approaches at which the barkeep says "Time, Gentlemen", and the party will be over. □

## A "light" moment aboard Mir; more schools set for chats with crew



This photo of members of Mir-22's crew was taken during space shuttle flight STS-81, which was a ten-day mission to dock with the Russian space station Mir. Here, lives are lightened by small flashlights brought up to Mir by STS-81. Left to right are new cosmonaut researcher Jerry M. Linenger, KC5HBR; cosmonaut Valeri G. Korzun (mission commander); and cosmonaut Aleksandr Y. Kaleri, flight engineer, along with former cosmonaut researcher John E. Blaha, KC5TZQ. The four are on the Base Block of Mir on the eve of undocking day.

NASA PHOTO

As another school delights over its success in talking with ham-Astronaut Jerry Linenger, KC5HBR, aboard the Russian Mir space station this week, more schools have been put on the list for scheduled Mir QSOs.

On March 4, students at Perryton High School, in Perryton, Texas, got to talk with Linenger during a ten-minute pass. An audience of more than 200 was on hand, and all high school classrooms plus fourth, fifth and sixth grade classrooms in another nearby school were wired in to listen to the QSO. Reporters from reported two TV stations, a radio station and a newspaper also attended. Said volunteer Jerome Doerrie, K5IS, "After years of Cold War ideas, the community is seeing Russia-US relations in an entirely different way." (Doerrie is the husband of Perryton teacher Bobbie Doerrie, N5IS.)

Other Round 1 schools include United South High School, Laredo, Texas (March 11) and Booker T. Washington High School, Houston, Texas (March 17).

The SAREX/ARISS Working Group hopes to have 15 more schools scheduled with Linenger over the next six weeks. The ARRL's Educational Activities Department has sent lesson plans to each school.

Round 2 Mir school QSOs have been penciled in for sometime between March 20 and April 20, 1997. On the list are Alaieden Middle School, Alaieden, Michigan; Lexington High School, Lexington, South Carolina; Holy Angels, Dayton Ohio; Thomas Jefferson Middle School, Teaneck, New Jersey; Jerling Junior High School, Orland Park, Illinois; and Shell Beach Elementary School, Pismo Beach, California.

— GLENN SWANSON, KB1GW, IN THE ARRL LETTER, 3/7/97

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# WHAT'S HAPPENING

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EDITED BY KENNETH A. EBNETER, K9EN, 822 WAUONA TRAIL, PORTAGE, WI 53901

## Swapfests and Other Social Events

**SUNDAY APRIL 13, 1997.** 25th Annual Madison Swapfest. Exhibition Hall located on the Dane County Fairgrounds in Madison, WI. 30,000 square feet of electronic equipment and components for hams, computer hobbyists and experimenters, Commercial dealers for both new and used equipment. For information contact: MARA, PO box 8890, Madison, WI 53708-8890. (608) 245-8890.

**FRIDAY & SATURDAY, APRIL 25-26, 1997.** Hamboree 19, Iowa State Convention, Marina Inn, South Sioux City, NE. Contact NFON, Mike Nikolaus, 316 East 32nd St., South Sioux City, NE 68776. (402) 494-6074. email menicko@avalon.net.

**FRIDAY & SATURDAY, MAY 2-3.** AES Superfest 97. Amateur Electronic Supply, Milwaukee, WI. Many supplier displays. Contact: Ray Grenier, K9KHW, (414) 358-4088. help@aesham.com.

**SATURDAY, MAY 3, 1997.** 19 annual Cedarburg Swapfest, sponsored by the Ozaukee Radio Club at the Circle-B Recreation Center, Highway 60 and County I (located 20 miles north of Milwaukee, west of Grafton. Admission \$4.00. both in advance and at the door. 4-foot tables are \$5.00. Food and refreshments available. Sellers set up 6:30 a.m. License exams start at 9:00 a.m. Talk-in on 146.37/97 and 146.52. For additional information, send an sase to ORC Swapfest Chairman, W58 N985 Essex Drive, Cedarburg WI 53012-1439. (414) 377-2784 or (414) 284-3271.

**SATURDAY, MAY 10, 1996.** Lakeshore Hamfest and Computer Swapfest, Manitowoc County Expo, Manitowoc, WI, intersection of Highways 41-151 and I-43 on County Highway R. FCC exams. Doors open at 8:00 a.m. Friday night setup of vendors. Contact Glenn, AA9MT (414) 684-7096 or Red, N9GHE, (414)

684-9097 (nights).

**SATURDAY, JULY 12, 1997.** South Milwaukee ARC Swapfest. American Legion Post 434, Oak Creek, WI. Contact (414) 762-3235.

**SATURDAY, JULY 12, 1996.** Eau Claire ARC Swapfest, Eau Claire County Fairgrounds, Eau Claire, WI. Contact PO Box 1867, Eau Claire, WI 54701., Carol Ceraso (715) 723-9205 or Liz Searing (715) 834-1303.

**SATURDAY, JULY 26, 1997.** Rockford (IL) Amateur Radio Association Hamfest.

**SUNDAY, JULY 27, 1996.** Racine Hamfest, Racine, WI. Contact RMC, PO Box 3, Racine, WI 53401.

**SUNDAY, AUGUST 3, 1997.** HAMNIC: Marshfield aArea Amateur Society will be holding their 6th annual picnic, potluck, swapfest in Wildwood park, Marshfield, WI. Gather around 11:00 a.m. All welcome. Contact Guy A. Boucher, KF9XX, 107 West Third St., Marshfield, WI 54449. (715) 384 4323. PACKET: KF9XX@W9IHW.WI.USA.NA. e-mail guyboucher@tznnet.com

**SUNDAY JUNE 7, 1998.** Adams county hamfest scheduled for June 1, 1997 has been cancelled. Plans are already in place to put forth a much larger and expanded Hamfest next year.

See also the back page and flyer ads for additional information on many of these events.

Let us know of your dates as soon as you know them. We will list them and perhaps help avoid conflicts with other events.

As a service to our readers, this section of Badger State Smoke Signals is available without charge to list your upcoming Swapfest, Hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas. Send information on your event to Kenneth A. Ebneter, K9EN, 822 Wauona Trail, Portage, WI 53901. In addition, space is available at attractive rates on our advertising pages. For information on rates and requirements for our advertising pages, please contact K9ZZ or K9EN.



## CLUB MEETINGS

Due to space limitations, we cannot always carry the full listing of Wisconsin and area club meetings. Please see the September 1996 meetings column for the latest complete listing. The following are additions or changes since that listing.

**MILWAUKEE RADIO AMATEURS CLUB**  
Last Thursday evening, Redemption Lutheran Church, 4057 North Mayfair Road, Wauwatosa 53222. Meetings begin at 7:30 p.m. 12 months of the year.

**GREATER MILWAUKEE DX ASSOCIATION**  
Fourth Monday of the month at 7:30 p.m. Contact any GMDX member or Gary Schwartz, K9GS, (414) 363-4439, garyk9gs@solaria.sol.net, K9GS@WA9KEC.WI.USA.NOAM, Packet cluster: NB9C, for meeting location.

**M & M AMATEUR RADIO CLUB**  
General meeting held second Thursday each month at 7:00 p.m. in cafeteria of BAMCM basement, Tenth Ave., Menominee, MI. All amateurs and guests are welcome. Use the 147.000+ repeater. Our net is Sunday at 7:00 p.m. on the repeater. Our address is P.O. Box 1082, Marinette, WI 54143.

**YELLOW THUNDER AMATEUR RADIO CLUB (BARABOO)**  
Days rotate: All meetings will be at the Baraboo Civic Center, room 14, unless otherwise noted. Starting time for the monthly club meeting is 7:30 p.m.. The program starting time after the meeting is 8:00 p.m., with a one hour limit.

**ST. CROIX VALLEY RADIO AMATEURS HUDSON**  
Club meetings are held on the third Tuesday of each month at the St. Croix County Emergency Government Center on Charmicael Road in Hudson, WI. A short business meeting begins at 7:30 p.m. followed by the program. Talk in is available on the 145.130 MHz repeater. All are welcome!

## The Test Point



**Amateur Radio Examination Locations and Schedules in the Wisconsin Area**

April 04, 1997	Hudson, WI
April 05, 1997	Oshkosh (Omro), WI
April 05, 1997	Racine, WI
April 05, 1997	St. Paul, MN
April 10, 1997	Apple Valley, MN
April 12, 1997	Blaine, MN
April 12, 1997	Bloomington, MN
April 12, 1997	Eau Claire, WI
April 12, 1997	Madison, WI
April 12, 1997	Oak Creek, WI
April 12, 1997	Juneau, WI
April 15, 1997	Eden Prairie, MN
April 16, 1997	Milwaukee, WI (MRAC)
April 19, 1997	Redgranite, WI
April 19, 1997	Cottage Grove, MN
April 19, 1997	Loves Park, IL
April 19, 1997	Milwaukee, WI (BE)
April 26, 1997	Tomahawk, WI
April 26, 1997	Wauwatosa, WI (MRAC)
May 03, 1997	Oshkosh (Omro), WI
May 03, 1997	Racine, WI
May 03, 1997	St. Paul, MN

## Badger State Smoke Signals

**Amateur Radio  
Education and Information**

**CHAIRMAN:** Kenneth A. Ebneter, K9EN, 822 Wauona Trail, Portage, WI 53901. Telephone (608) 742-3560.

**EDITOR:** Jim Romelfanger, K9ZZ, 412½ Ash Street, Baraboo, WI 53913. Telephone (608) 356-4031. InterNet e-mail: smokesigs@baraboo.com

**TREASURER:** Jim Decker, WB9UQT, P.O. Box 337, Baraboo, WI 53913-0337.

**EDITORIAL BOARD:** Ken Ebneter, K9EN; Dave Knaus, WA9POV; Don Evenson, K9JYX; Jim Romelfanger, K9ZZ.

### Subscriptions

1 year	(12 issues)	\$12.00
2 years	(24 issues - save \$2.00)	\$22.00
3 years	(36 issues - save \$4.00)	\$32.00

Special club package reduced rates are available. For information, contact Ken Ebneter, K9EN.

### When to Send It

The closing date for each issue is the first of the month for the next month's issue. For example, the closing date for the June issue is May 1. The only exception is for participating clubs. Participating clubs are requested to send their material no later than FIVE DAYS after the club's meeting. For example, if a club meets on the 4th of the month, the material should be sent no later than

the 9th of that month. This material is to be sent to the Editor.

### Where to Send It

Address changes and corrections should be sent to Ken Ebneter. Editorial material, photographs, feature articles, display ads, and exchange papers should be sent to Jim Romelfanger.

Inquiries about advertising should be directed to Ken Ebneter. Club, swapfest, and Test Point information should be sent to Ken Ebneter.

Swapfest ads should be sent to Jim Romelfanger. Subscriptions should be sent, with check or money order, to Jim Decker.

### Conditions for Reprinting or BBS Posting Material from Badger State Smoke Signals

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### Editorial Disclaimer

The opinions expressed in editorials, guest editorials, columns, articles, and letters from readers are the opinions of the authors only, and do not, unless otherwise stated, express or imply endorsement by *Badger State Smoke Signals*, or by any other individual or organization.

May 08, 1997 Apple Valley, MN  
 May 10, 1997 Blaine, MN  
 May 10, 1997 Bloomington, MN  
 May 10, 1997 Madison, WI  
 May 10, 1997 Manitowoc, WI  
 May 10, 1997 Oak Creek, WI  
 May 17, 1997 Redgranite, WI  
 May 17, 1997 Cottage Grove, MN  
 May 17, 1997 Loves Park, IL  
 May 17, 1997 Milwaukee, WI (BE)  
 May 20, 1997 Eden Prairie, MN  
 May 21, 1997 Milwaukee, WI (MRAC)  
 May 31, 1997 Tomahawk, WI  
 May 31, 1997 Wauwatosa, WI (MRAC)  
 June 07, 1997 Hudson, WI  
 June 07, 1997 Appleton, WI  
 June 07, 1997 Oshkosh (Omro), WI  
 June 07, 1997 Racine, WI  
 June 07, 1997 St. Paul, MN  
 June 12, 1997 Apple Valley, MN  
 June 14, 1997 Blaine, MN  
 June 14, 1997 Bloomington, MN  
 June 14, 1997 Madison, WI  
 June 14, 1997 Marshfield, WI  
 June 14, 1997 Oak Creek, WI  
 June 17, 1997 Eden Prairie, MN  
 June 18, 1997 Milwaukee, WI (MRAC)  
 June 21, 1997 Redgranite, WI  
 June 21, 1997 Cottage Grove, MN  
 June 21, 1997 Loves Park, IL  
 June 21, 1997 Milwaukee, WI (BE)  
 June 28, 1997 Tomahawk, WI  
 June 28, 1997 Wauwatosa, WI (MRAC)  
 August 02, 1997 Hudson, WI  
 September 20, 1997 Appleton, WI  
 October 04, 1997 Hudson, WI  
 October 18, 1997 Redgranite, WI  
 November 01, 1997 Menomonie, WI  
 November 02, 1997 Kaukauna, WI  
 November 15, 1997 Redgranite, WI  
 December 06, 1997 Hudson, WI  
 December 13, 1997 Redgranite, WI  
 January 24, 1998 Appleton, WI  
 Monthly, 1st Sat. Racine, WI  
 (except January, July & August)  
 Monthly, 1st Sat. Oshkosh (Omro), WI  
 Monthly, 1st Sat. St. Paul, MN  
 Monthly, 2nd Thu. Apple Valley, MN  
 Monthly, 2nd Sat. Oak Creek, WI  
 Monthly, 2nd Sat. Madison, WI  
 Monthly, 2nd Sat. Bloomington, MN  
 Monthly, 2nd Sat. Blaine, MN  
 Monthly, 3rd Tue. Eden Prairie, MN  
 Monthly, 3rd Wed. Milwaukee, WI (MRAC)  
 Monthly, 3rd Sat. Milwaukee, WI (BE)  
 Monthly, 3rd Sat. Loves Park, IL  
 Monthly, 3rd Sat. Cottage Grove, MN  
 Monthly, Last Sat. Wauwatosa, WI (MRAC)  
 (except December)  
 Monthly, Last Sat. Tomahawk, WI  
 (January thru October only)  
 Quarterly Marshfield, WI  
 (Second Saturday every third month.)  
 Quarterly Eau Claire, WI  
 (Second Saturday, Jan., Apr., & Oct.  
 plus annual summer hamfest.)  
 Many Swapfests/Hamfests offer exam sessions.  
 If not shown above contact the sponsoring club in the  
 Swapfest column on page 2.

The FCC now requires applicants to show their  
 ORIGINAL AMATEUR LICENSE to the VEC. A copy of your  
 license must be attached to your FCC form 610. You  
 will also be required to have a photo ID, or other  
 acceptable identification.

#### GENERAL RULES FOR MOST EXAMINATIONS:

Be sure to check with sponsors in the event  
 there are changes and/or errors in the dates or  
 information given.

Some examinations require filing an FCC Form  
 610 and advance registration at least 30 days before  
 the exam date. (Some VECs permit walk-ins. Check with  
 sponsor.)

To register, you must first secure a copy of the  
 current FCC Form 610 and fill it out completely (AND  
 CORRECTLY). Get your form from an FCC Field Office,  
 the ARRL. Send a 32c/ SASE if you request one from  
 the ARRL. In most cases, forms can also be obtained  
 from the sponsoring group.

ARRL/VEC examinations require a check for \$6.05  
 payable to "ARRL/VEC".

The FCC now requires applicants to show their  
 ORIGINAL AMATEUR LICENSE or CSCE to the VEC. You  
 must also have two good copies of your license or  
 CSCE. A copy of your license or CSCE must be attached  
 to your FCC form 610 and most VEC want a copy for  
 their records. You will also be required to have a  
 photo ID, or other acceptable identification.

Technician class licensees must show proof of  
 testing before March 21, 1987, in order to upgrade to  
 General with a code test only.

Additional information is given below.

#### MILWAUKEE RADIO AMATEURS' CLUB (MRAC/VEC) OAK CREEK, WI

SECOND SATURDAY DATE: 1:00 p.m. at Wauwatosa  
 Savings Bank, 6560 S. 27th St., Oak Creek, WI.

THIRD WEDNESDAY DATES: At 6:30 p.m. at Village  
 at Manor Park, (was Methodist Manor) 3023 S 84th St.,  
 (84th & Oklahoma) Milwaukee, WI.

LAST SATURDAY DATES: (except December): 9:00  
 a.m. at 7500 W. State St., Wauwatosa S&L, lower  
 level, Wauwatosa, WI.

For Additional Information Contact: Jack  
 Krause, (414) 774-6999 or call (414) 466-HAMS  
 (Answering Machine) or write Milwaukee Radio  
 Amateurs Club, PO Box 25707, Milwaukee, WI 53225.

Bring along your ORIGINAL license, CSCE and two  
 (2) good quality photocopies, plus two forms of  
 identification, such a driver's license, etc. Also  
 required is \$5.00 for the exam fee. WALK-INS are  
 welcome. To register in advance, use a post card:  
 print the grade of license you are applying for, and  
 your name, address, and telephone number. Send the  
 card to MRAC/VEC, at the addresses shown above.

#### BADGER EXAMINERS (BE) - MILWAUKEE

Badger Examiners group now testing at AES  
 (Amateur Electronic Supply) at 6th and Good Hope,  
 every third Saturday MORNING. Exam times are not  
 9:30 a.m. to 12:00 noon, at the old Sterman Printing  
 ship, just 300 feet west of the AES store. Novice to  
 Extra are offered, and all test materials are  
 provided, fee is \$6.25, and bring your original  
 license, or CSCE if needed. Also available are  
 Commercial license exams GROL (General  
 Radiotelephone license), GMDSS, Telegraph, Etc. Fee  
 is \$35.00. For more information call Gary Sharbuno,  
 W19M at (414) 355-0237.

#### MADISON, WI

VE exams are held in Madison every second  
 Saturday morning of the month at 8 a.m. They are held  
 at the operations building of the Madison  
 Metropolitan Sewerage District at 1610 Moorland Rd.  
 To get there take the Beltline (Hwy 12 & 18) to South  
 Towne Drive. Go south 8/10 mile till South Towne  
 Drive makes a bend and becomes Moorland Rd. and enter  
 at gate.

You should bring a picture ID, your original  
 licence and a copy of your licence. For exams beyond  
 the novice tests, bring a check for \$5.90, made out  
 to the ARRL/VEC. If the special 610 form with the  
 medical exemption is required, contact me  
 beforehand to obtain one. No appointments are  
 necessary to take exams. For further questions,  
 please leave a message on the mailbox or phone me at  
 (608) 832-6631.

Mark Jenks, N29B

#### RACINE, WISCONSIN - ARRL/VEC

Monthly - first Saturday, except January, July,  
 and August.

Monthly exams are given 9:00 to 11:00 a.m. at  
 the Red Cross Building, 4521 Taylor Avenue, Racine.  
 Walk-ins are permitted.

Talk in on 147.87/.27. Inquiries and  
 registrations should be directed to Robert N.  
 Jensen, W0WLN, 5616 Cambridge lane #6, Racine, WI.  
 Telephone (414) 886-8551.

#### TOMAHAWK, WI

Last Saturday of every month. Jan. thru Oct.

Tomahawk Volunteer Examiners (ARRL/VEC).  
 Tomahawk, WI. No preregistration required, but  
 appointment would be appreciated. Registration at  
 8:30 a.m. and testings starts at 9:00 a.m. For  
 location or other information, inquire on 145.43  
 MHz. repeater or contact: Terry Collins, KB9AUP,  
 W6564 Highway 8, Tomahawk, WI 54487. Telephone (715)  
 453-4633.

#### APPLETON, WI - ARRL/VEC

#### MANITOWOC, WI (HAMFEST)

#### KAUKAUNA, WI (HAMFEST)

Conducted by the Fox Cities ARC VE team. All  
 test sessions in Appleton are held at James Madison  
 Jr. High, 2020 S. Carpenter Street. Testing starting  
 at 8 a.m. For Appleton information, contact George  
 R. Croy, W9MDP, 2113 Twin Willows Drive, Appleton,  
 WI 54914. (414) 730-0967. For Manitowoc or Kaukauna  
 information, contact Larry Siebers, KD9IA (414)  
 759-1167.

#### STEVENS POINT, WI (ARRL/VE)

Held in room 107, of the UWSP Science Building,  
 on the corner of Fourth and Reserve Streets in  
 Stevens Point. Contact Joe Larson, N9JW evenings at  
 (715) 344-1182.

#### PEWAUKEE, WI

Kettle Moraine Exam Team. Held at the Pewaukee  
 WCTC Campus Science Building, Room S101. 9:00 a.m.  
 to Noon. Contact Al Johnson, AA7CS. (414) 568-0836.  
 103357.3222@COMPUSERV.COM

#### OSHKOSH (OMRO)

The Oshkosh VE Team will administer Amateur  
 Radio exams monthly on the first Saturday.  
 Registration begins at 8:30 a.m. and exams will be  
 given from 9 a.m. until noon at the Omro Community  
 Center, 130 W. Larrabee, Omro, WI. Walk-ins welcomed.  
 Bring a good quality photocopy of your original  
 license and any other necessary documents such as a  
 CSCE, etc. The first session will be through  
 W5YI/VEC, and then sessions will alternate between  
 ARRL/VEC and W5YI/VEC. The exam fee is \$6.25. For  
 more information, please call Dick Lemme, K9FA, at  
 (414) 235-0987, e-mail lemme@vbe.com, or write Dick  
 at 826 Jefferson Street, Oshkosh, WI 54901.

#### EAU CLAIRE

The Eau Claire ARC will hold exam sessions on  
 the second Saturday in the months of January, April,  
 and October, as well as on the date of their annual  
 hamfest during the summer. For further information  
 contact: Carl F. Searing, W9NW, 1129 Mc Kinley Road,  
 Eau Claire, WI 54703-2219. (715) 834-1303.

#### REDGRANITE, WI (W5YI VEC)

The Radio Amateurs of Wisconsin (RAW) will be  
 holding test sessions at the Civic Center in  
 Redgranite, 202 Pine River Road, one block from  
 Highway 21. Registration at 8:45 a.m. with testing  
 at 9:00 a.m. Bring two forms of identification,  
 \$6.25 per test, two copies of all original  
 documents, CSCE's, Licenses, etc. All are welcome  
 for breakfast at the Curve Inn on Highway 21,  
 preceding the exam session. For further  
 information, contact: Mark Miller, N9WT, (414) 231-  
 1662 or Sharon Gramza, N9YGN, (414) 566-2362.

#### MENOMONIE, WI

The Menomonie, WI VE team will conduct its 1997  
 exams on Saturday, Saturday, November 1, 1997. At  
 UW-Stout Communication Center, 820 South Broadway,  
 Menomonie, WI. Walk-ins only, 9:00 a.m. to 11:00  
 a.m. Contact: Jim Ley, NX9F, (715) 232-1397 (W) or  
 (715) 235-3998 (H).

#### WISCONSIN DELLS, WI

Wisconsin Dells City Hall, City Council  
 Chambers. 10:00 a.m. to 2:00 p.m. Contact: K9WD,  
 (608) 254-2895.

#### JUNEAU, WI

April 12, 1997, 10:30 a.m. at the Community  
 Center, Old Courthouse, off Hwy. 26 Juneau WI.

#### HUDSON, WI

Testing is held at the St. Croix County  
 emergency government Center on Carmichael road in  
 Hudson, WI. Registration begins at 8:00 a.m. and  
 testing begins promptly at 9:00 a.m. Contact: Greg  
 Miller, KB9JHL, 503 4th St., Hudson, WI 54016. (715)  
 386-9857.

#### CEDARBURG, WI - ORC HAMFEST

EAU CLAIRE, WI - ECARC HAMFEST GREEN BAY,  
 WI - ARES HAMFEST

#### HAYWARD, WI - HAYWARD HAMFEST

#### KAUKAUNA, WI - SWAPFEST

#### MANITOWOC, WI, LAKESHORE HAMFEST

#### MARSHFIELD, WI - HAMFEST

#### OAK CREEK, WI - SMARC HAMFEST

#### RACINE, WI - RACINE HAMFEST

#### RHINELANDER, WI - NWARC SWAPFEST

#### ROCKFORD, IL - RARC HAMFEST

#### ROTHSCHILD, WI - WVRA HAMFEST

#### SOUTH MILWAUKEE, WI - SMARC HAMFEST

#### STEVENS POINT, WI - CWRA SWAPFEST

#### WAUKESHA, WI - KMRA SWAPFEST

#### WAUKESHA, WI - MIDWINTER SWAPFEST

#### DUBUQUE, IA - HAMFEST

See the Swapfest column for additional  
 information and contact persons.

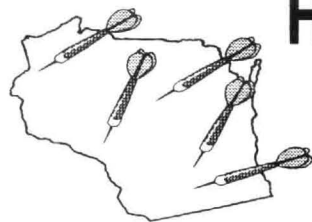
#### DUBUQUE, IA - ARRL/VEC

Dubuque Hamfest. Contact: Carl Clark, NOKAX,  
 2145 Delicia Drive, Dubuque, IA 52001. (319) 557-  
 9149.

#### LOVES PARK, IL

Third Saturday of every month. Northern  
 Illinois Volunteer Examiners (W5YI VEC). Held at  
 North Suburban District Library, 6340 North Second  
 St. (Hwy. 251), Loves Park, IL. Contact: Dennis G.  
 Eksten, W9SS, (815) 877-6768.





## HERE and THERE

### Emergency Alert System sets up page on the Web

The Emergency Alert System (EAS) web page address is:

<http://www.eas.net/index.html/>

If the above EAS address does not work, use:

<http://www.eas.net/>

73 de Mack/N9NTB

### Young Ham of the Year '97 nominations open

The nominating period is now open for the 1997 Young Ham of the Year (YHOTY) Award. In cooperation with Yaesu USA and CQ magazine, Newsline presents this award annually to a young ham who has contributed to his community or the nation using ham radio.

To qualify, a nominee must be 18 or younger, be an FCC-licensed radio amateur and reside in the continental United States. More information on the award and an official nominating form is available at <http://rrnet.com/rrra/newsline> (scroll down and click on "Young Ham of the Year Award 97").

Award information and a nominating form also is available by sending a self-addressed stamped envelope to the 1997 Young Ham of the Year Award, Newsline, 28197 Robin Ave, Saugus CA 91350.--Amateur Radio Newsline

The ARRL Letter, 3/17/97

### ARRL honors Les Peterson, W9YCV



Wisconsin ARRL Section Manager Roy Pedersen, K9FHI (right), Juneau, presents Les Peterson, W9YCV, Greenfield, with a certificate honoring Les for 60 years of League membership. He also received a plaque.

PHOTO AND STORY VIA ROY PEDERSEN/K9FHI

### RS-16 satellite in orbit!

Sources at AMSAT report that a new Russian Amateur Radio satellite -- designated RS-16 -- has been launched from the Svobodny Cosmodrome as part of a Zeya satellite package. RS-16 reportedly has an average orbital altitude of 276 miles, producing a footprint some 2000 miles in diameter on Earth.

On March 4, 1997, 1614 UTC, Jim White, WD0E, reported hearing strong signals from the RS-16 CW beacon on 29.408 MHz. Others in the US and Europe have reported strong signals on 10 meters. The transponders are not yet active. The twice-delayed launch had been expected as early as December. RS-16 is expected to be a Mode A (2 meters up/10 meters down) satellite, like RS-10 and RS-15. It's the first Russian satellite to have a 70-cm beacon, but that beacon is not yet operational. Beacon frequencies are 29.408, 29.451, 435.504 and 435.548 MHz.

When the transponders are operational, the RS-16 frequencies are expected to be: uplink, 145.915 to 145.948 MHz; downlink, 29.415 to 29.448 MHz. Transponder power output will be 1.2 or 4 W. Orbital elements and additional information will be announced as they become available.

The ARRL Letter, 3/17/97

### Gettysburg gaining on WIPS

The FCC office in Gettysburg, Pennsylvania, reports today that personnel are working on the vanity work in process (WIPs) of January 21. The FCC last processed vanity call sign applications on February 12. --FCC

The ARRL Letter, 3/17/97

## Correspondence

*Editor's note: The following hand-written letter was received by Bob King, W9QOQ, Baraboo, in reference to his story about a Morse code demonstration given by himself and Fred Becker, W9KKM, near Wisconsin Dells. The story was published in March 1997 Badger State Smoke Signals.*

Your March 1997 *Badger State Smoke Signals* needs correction. Inasmuch as it applies to Texas.

I am a telegraph operator, and there is no such thing as Western Union in a Bank. All Banks have their own electronic money transfers.

WU has offices all over Texas, not in banks, some offices are the "Western Union Office". Smaller cities have the WU office in motel or bus stations, and some large grocery stores. WU also can be contacted by phone at its headquarters, and you can send money by using your credit card.

Messages can also be sent by mailgram. Telegrams can be sent to State & Federal Congress. Many WU in cities also deliver messages. WU offices also send messages over seas, including money.

I am 30 miles away from San Antonio and send from here daily up to \$15,000 to Old Mexico.

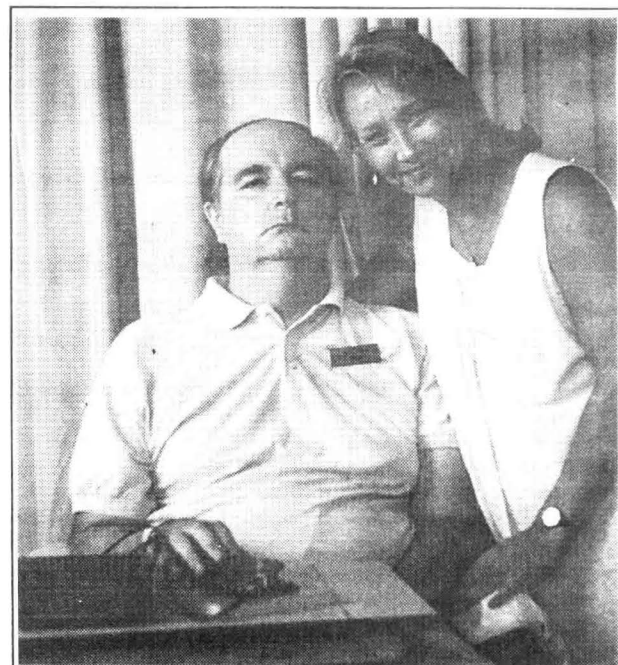
It would be encouraging to read your history of WU. It should include today's operations. Too many people think WU is like horses, good for the past.

Telegraph yours,

Harold Boettcher  
P. O. Box 310161

New Braunfels, TX 78131-0161

### Morse 2000: From the impossible to the do-able



Radio operator Ron Andrukaitis, VE2BKQ, of Montreal, Canada, uses interpretive device the Code Breaker to communicate. Ron suffered a stroke and has limited speech. However, his good knowledge of Morse code has enabled him to overcome that disability. Ron is seen here at the Montreal General Hospital with his sister, Bonnie. He was transferred to the Montreal Institute of Rehabilitation, where a computer helps expand his communication abilities from his Morse code input to it. This just one success story from Morse 2000, a program at UW/Eau Claire by Dr. Tom King, WF9I, and his wife, Debbie, N9GLG, which makes it possible for those who have been unable to speak to talk once again. For more information about this international outreach program, contact Debbie King at (715) 836-3990, or e-mail [kingdr@uwec.edu](mailto:kingdr@uwec.edu). A full story was published in the March issue of BSSS.

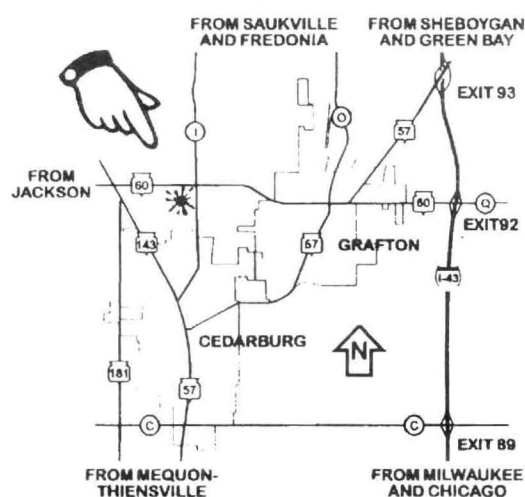
PHOTO AND INFO COURTESY OF DR. TOM KING/WF9I

The Ozaukee Radio Club, Inc. presents its 19th Annual  
Amateur Radio and Computer

# SWAPFEST Cedarburg, WI

**SATURDAY, MAY 3, 1997**  
8:00 AM to 1:00 PM

CIRCLE B RECREATION CENTER  
Intersection of St. Hwy 60 and Ozaukee Cty I



**Talk-in: 146.37/97 and 146.52**

**ARRL SANCTIONED  
PLENTY OF FREE PARKING  
FOOD AND REFRESHMENTS**

Amateur license exams will be administered between 9:00 AM and 12:00 Noon. For pre-registration, send a postcard with your name, call, address, telephone number, and exam elements desired to:

Badger Examiners  
c/o Gary Sharbuno, WI9M  
5119 W. Willow Road  
Brown Deer, WI 53223  
(414) 355-0237

Bring the original PLUS a COPY of your current Amateur license plus another form of I.D.

**RESERVE YOUR TABLES EARLY**  
Power availability limited - first come first served  
(Bring your own duct tape to secure extension cords)

For further information, call Gabe Chido, N9QQA,  
at (414) 377-2784 between 6:00 and 8:00 PM.

**Advance Registration Form - 1997 Ozaukee Radio Club's Cedarburg Swapfest**

Please send the following tickets by return mail in the **ENCLOSED SASE**:

\_\_\_ Admission tickets @ \$4.00 (same price at the door)

Note: All persons entering the swapfest must have an admission ticket

\_\_\_ 4-foot tables @ \$5.00 \_\_\_ Power requested

\_\_\_ Return application if power is not available

NAME: \_\_\_\_\_ CALLSIGN: \_\_\_\_\_ PHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

Mail this form with your check and a **SELF-ADDRESSED STAMPED (BUSINESS SIZED) ENVELOPE** to  
O.R.C. Swapfest Committee - W58 N985 Essex Drive - Cedarburg, WI 53012-1439



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7<sup>95</sup>  
pod



# Rockets for Schools

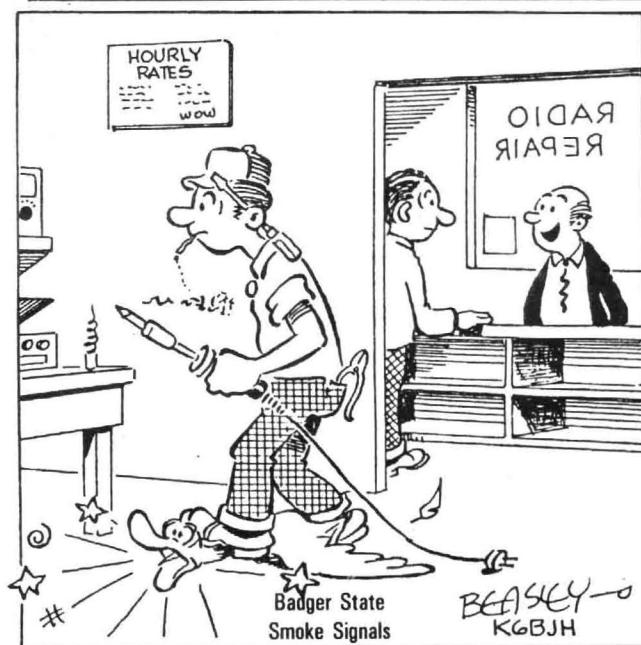


In this 1996 photo, NASA Administrator Dan Goldin speaks to an audience about the Rockets for Schools program. The talk was given in Sheboygan. This year, two Super Loki rockets will be launched from Sheboygan; please see the story on page 6 of this issue. We apologize if the photo does not reproduce well.

PHOTO COURTESY GREG HEINEN/K6BJH

## On the Lighter Side

By Bob Beasley, K6BJH



HEY, YOU FIXED MY SIDEBAND RIG --- SOUNDS GREAT?

## Red Face Department

In a couple of issues recently, I challenged our readers to be courageous enough to tell all about their most embarrassing moment on the air. Now, either our readers have *never* done anything that would be considered embarrassing, or they won't admit it. Thus, I am left with only mine. And the boo-boo I made was a real dandy. I have to write this rather carefully, because it involves a "delicate" part of human anatomy.

I was on the air one day at K9EN's shack in Portage, and on 15 meters SSB, if I remember correctly. The rest of this, I will *never* forget.

I heard a station in Peru calling, "Hola, CQ, hola CQ....". In English, that is Hello, CQ, hello, CQ.... Ken was standing right behind me. I asked him if I should try my high school Spanish to get through a simple QSO. He shrugged, per usual. So, I called the station, in Spanish, and got a reply. The QSO was destined to be short and simple, because my Spanish vocabulary is exactly that: short and simple (I got an "F" in 10th grade Spanish at Mission Bay Senior High School in Pacific Beach, a suburb of San Diego.)

We got through a couple of exchanges. At that point, we began exchanging addresses for QSL cards. He gave me his address, and I missed the numbers. I asked him to repeat the numbers and let up on the mike button. All I heard was a belly laugh coming back, so loud I'd have heard it *without* a radio, and so long I thought it would never stop; it sounded as if he was rolling on the floor. I started to turn red as Ken's sweater. Then, Ken started laughing. I got more red. And I did not know what I had said! So, I chose different Spanish words, as it was obvious that somewhere in the sentence I used before was a word that was out of place. I got the numbers and thought the better of trying to continue. We signed.

It was not until some years after that I discovered what I had actually said. No wonder this guy in Peru had been laughing. I *thought* I had said, "What is the number of your address?" What I had *really* asked was, "What is the number of your...." Well, to keep it "clean" here in print, I had asked how many he had of certain private parts. Cheers.

I'll bet he had a great story for his coffee gang get-together that next weekend.

And, should you be wondering, he did not tell me how many.

Anyone care to try to top that one? Betcha can't!

JIM ROMELFANGER, K9ZZ  
EDITOR

## Silent Keys

Harvey G. Volkmann, WB9LIU, passed away on February 26, 1997, at the age of 84.

RICHARD REGENT/K9GDF

James Merrell, W9AYK, Oconomowoc, died Friday, March 7. He was net manager of the Badger Weather Net for many years, and will be greatly missed.

ROY PEDERSEN/K9FHI

## 1x1 call signs put on ice

The FCC won't be authorizing any more 1x1 Amateur Radio call signs under Special Temporary Authority (STA) any time soon. That was the word this week from David Horowitz, the acting chief of the FCC's Private Wireless Division. Horowitz -- who's an attorney -- said he felt the FCC should not have issued STAs for any 1x1 call signs while a rulemaking proceeding regarding formal rules for 1x1 call signs, FCC Docket WT 95-57, was in the works. Action in that proceeding might not happen for several months.

Horowitz' decision effectively denied a half dozen or so pending requests for 1x1 call sign STAs. Some two dozen written STA requests for 1x1 call signs were routinely granted over the past year or so by former Private Wireless Division Chief Robert McNamara. That number does not include the 52 1x1 call signs issued for use by contestants in last summer's World Radiosport Team Championship 96 (WRTC-96) event in the San Francisco Bay area.

The League has been assured by the FCC Wireless Telecommunications Bureau that it will move expeditiously toward concluding the docket proceeding that includes the 1x1 call sign rules matter.

The ARRL Letter, 3/14/97

## SAREX aboard STS-83; launch set for April 3

Eighteen schools, including institutions in the People's Republic of China and on Okinawa, have been picked for scheduled SAREX contacts during NASA's STS-83 space shuttle mission set for launch early on the morning of April 3. Three hams are scheduled to be aboard the shuttle Columbia. They are James D. Halsell, KC5RNI, mission commander; Janice E. Voss, KC5-BTK, payload commander; and Donald A. Thomas, KC5FVF, mission specialist. The STS-83 flight is scheduled to last 16 days. The mission will carry SAREX configuration C: voice and packet. The mission's primary payload is the microgravity science laboratory.

The schools selected for STS-83 SAREX contacts are:

- Alvin C. York Agricultural Institute, Jamestown, Tennessee (assisting club: Fentress County Radio Club)
- Artesia Public Schools, Artesia, New Mexico (assisting club: Pecos Valley Amateur Radio Club)
- Beau Chene High School, Arnaudville, Louisiana (assisting club: Opelousas Area Amateur Radio Club)
- Center Street School, El Segundo, California (assisting club: Aerospace Amateur Radio Club)
- County College of Morris, Randolph, New Jersey (assisting club: Morris Radio Club)
- Crittenden Middle School, Mountain View, California (assisting club: Ames Amateur Radio Club)

- Edgewater High School, Orlando, Florida (assisting club: Edgewater High Amateur Radio Club)
- Ione Junior High School, Jackson, California (assisting: Dave Larsen, N6CO)
- Lawrence Intermediate School, Lawrenceville, New Jersey (assisting club: Delaware Valley Radio Association)
- Lester Middle School (Department of Defense Dependents Schools, Pacific), Okinawa, Japan (assisting club: Radio Society of Okinawa)
- Lexington Traditional Magnet School, Lexington, Kentucky (assisting club: Bluegrass Amateur Radio Society Inc)
- Mountain View Elementary School, Dewey, Arizona (assisting club: Yavapai Amateur Radio Club)
- Public School No. 9, New York, New York (assisting club: Cooper Union Amateur Radio Club)
- Robert J. Burch Elementary School, Tyrone, Georgia (assisting club: Fayette County Repeater Association)

- S. J. Davis Middle School, San Antonio, Texas (assisting club: Southwest Research Center Amateur Radio Club)

- Sonny Carter Elementary School, Macon, Georgia (assisting club: Bibb County Amateur Radio Emergency Service)

- Troy Intermediate School, Troy, Texas (assisting club: Temple Amateur Radio Club Inc)

- Tsinghua University, Beijing, Peoples Republic of China (assisting clubs: China Radio Sports Association and Tsinghua University Amateur Radio Club).

The SAREX Working Group has designated the following frequencies during the STS-83 mission:

- FM voice downlink (worldwide): 145.55 MHz
- FM voice uplink: 144.91, 144.93, 144.95, 144.97, and 144.99 MHz
- FM voice uplink (Europe only): 144.70, 144.75, and 144.80 MHz

If packet is available, the FM packet downlink will be 145.55 MHz; the uplink will be 144.49 MHz. The FM packet call sign will be W5RRR-1.

The SAREX hardware will be flown in configuration B, voice-only, battery operation. The SAREX equipment aboard STS-83 includes the Motorola 2-meter FM hand-held transceiver, 15 spare batteries, the window antenna, SAREX headset assembly, personal recorder and the required interconnecting cables.

Since STS-83 is an extended duration flight with power-hungry primary experiments, the power allocated for SAREX is 0 W.

The SAREX team is also flying the Heathkit packet

Please turn to page 7

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Send this form, with your check or money order, to Jim Decker, WB9UQT, Treasurer, P.O. Box 337, Baraboo, WI 53913-0337. Please do NOT send cash!

APRIL 1997



# Dipole antenna fundamentals: A more complete look

By Sherm Carr, W9NGT  
756 W. Washington Avenue, Hartford, WI 53027

Among the various antennas for amateur HF work, the dipole is certainly one of the most popular. It is simple, easy to assemble, and not expensive. And, it works.

Here, Sherm Carr, W9NGT, provides some expert advice about those antennas and how to adjust them to resonance quickly. He also provides a bit of background, and adds some information that seems to be lacking in most antenna construction articles about dipoles.

Sherm has been a broadcast engineer most of his life. If you have a question, drop a note to Sherm.

It is unfortunate that, down through the years, technical editors have seldom emulated commercial practice in amateur publications.

In the antenna fundamentals section, a half-wave antenna in free space is derived from the expression:

$$L = \frac{492}{F \text{ MHz}}$$

where L is overall length. F Mhz is the resonant frequency of the half-wave antenna in free space, and 492 is a velocity constant.

The definition stops there, but it is not complete. The free space dipole is an infinitely thin conductor, remote from earth, and it is purely non-inductive and exhibits zero capacitance. (Remember, a circuit - and an antenna is one - is said to be resonant when its inductance and capacitance are equal and opposite; that is, both reactances, inductive and capacitive cancel each other.)

The free space dipole exhibits a calculated radiation resistance of 73 ohms. Obviously, the free space dipole exists in only one place: on paper.

The fundamentals further state that the practical dipole antenna is about 5% shorter than the free space dipole due to "end effect". Here again, the treatment of the subject is incomplete. The term "end effect" is not explained, and is also a poor choice of words for a definition.

The practical dipole exhibits all the characteristics of a resonant circuit, i.e., inductive reactance, capacitive reactance, an LC ratio, a value of Q, a resonant frequency, and its radiation resistance.

The so-called "end effect" is simply a capacitive component which does not exist with a free space dipole and, due to height above ground, the dipole's length-to-diameter ratio, and its proximity to foliage and structures.

As is the case with any resonant circuit, when capacitance is added, inductance must be reduced to maintain the same resonant frequency. Inductance, of course, is the antenna conductor, which must be shortened as capacitance is added.

To calculate the operating dipole, the constant 492 is reduced by about 5% to 468.

Here again, the technical editors stop too soon. Beyond a cursory mention that antenna surroundings may affect performance, no mention is made that the constant, 468, will *not* be correct for all locations or situations.

Although surroundings do affect performance, they have a *far* greater effect on an antenna's distributed capacitance. It is clear then, that capacitance created by site conditions and antenna fabrication itself, can vary

widely with different situations.

Because antenna conductor length varies inversely with capacitance, which can vary widely with different installations, the constant 468 must be adjusted to a value which is correct for a given antenna site.

An accurate method, involving only one pruning step, can derive a precise velocity constant in just *two* steps.

For any particular situation, with this rather lengthy preface, the logic should be fairly evident.

## Step 1

- A. Calculate the dipole length (in feet) from

$$L = \frac{468}{F \text{ MHz}}$$

where F is the desired center frequency.

- B. Fabricate and install (temporarily) the antenna exactly as it will be operated.

- C. Feed enough power to the antenna (no tuner!) to find the antenna's self-resonant frequency. The best way is to determine the 1.5:1 SWR points above and below resonance, which will be exactly halfway between.

## Step 2

- A. Multiply the resonant frequency from step 1C by the overall length from step 1A.

- B. Calculate the new antenna length from

$$\frac{\text{Constant from 2A}}{F \text{ Mhz from 1A}} = \text{New length}$$

- C. Prune the antenna to new length from step 2B. When re-installed, it will be *at or very close* to the desired frequency.

## EXAMPLE (actual case)

- 1A.

$$\frac{468}{3.75 \text{ MHz}} = 124.8 \text{ feet}$$

- 1B. Resonance occurs at 3.67 MHz

- 2A.  $3.67 \times 124.8 = 458.016$ , a new constant

- 2B.

$$\frac{458.016}{3.75} = 122.1376 \text{ ft.} \quad (122' 2" \text{ approx.})$$

new length

been around the world in his many years with the U.S. State Department, and is always a very high scorer in the various major contests. He attended the University of Wisconsin in Madison on the 50's, the same time I "attended" Children's Orthopaedic Hospital there with a near-death case of polio.

Great contest, and thanks to the West Allis Radio Amateur Club for all its hard work invested in sponsoring the contest. It is truly one of the best.

JIM ROMELFANGER/K9ZZ

## The Wisconsin QSO Party

This year's WQP lived up to its expectations: lots of activity, lots of counties on the air, and good friends to run across.

I was pleased to work, among others, Hugh Turnbull, W3ABC, who works with the Foundation for Amateur Radio's scholarships program.

Likely the biggest surprise was working Fred Laun, K3ZO (on CW, naturally). I haven't worked Fred since he was on the air from Thailand many years back. He's originally from Kiel, WI, where he was W9SZR. He's

## Circus City Swapfest

Sponsored by The Yellow Thunder Amateur Radio Club

Saturday August 9, 1997 • 7 a.m. - noon  
Sauk County Fairgrounds • Baraboo, WI

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Bill Klinkner, N9KXX  
(608) 643-6908/643-6453

<http://www.thelox.com/~sschulze/hamfest.htm>

## Adams County Amateur Radio Club

## SPRING HAMFEST Sunday, June 7, 1998 (NOTE DATE/YEAR CHANGE)

Adams County Fairgrounds

West of Hwy. 13 on Cty. J • Friendship, WI

Adams County Amateur Radio Club  
Friendship, WI 53934

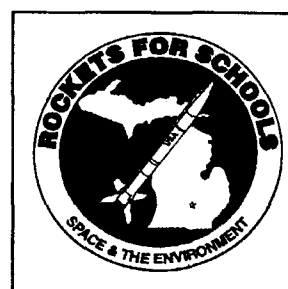
P. O. Box 232  
(608) 564-7887

Packet: N9TD-1 on 145.03

## Rockets for Schools and High-Gain APRS/ATVers

By Greg Heinen, KB9OBV,  
and Brian Suits, WB8WKN

Amateur Television will once again be part of the Aerospace States Association Rockets for Schools program. Two ATV payloads are scheduled for Super Loki sub-orbital launches as part of this year's MI/WI Rockets for Schools project.



The joint Wisconsin and Michigan event will be held the weekend of May 16 and 17, 1997 in Sheboygan, WI. The Loki launches are currently scheduled for 1:15 p.m. and 3:15 p.m. on Saturday, May 17, with weather back-up windows on both Friday and Sunday. The ATV payloads have been developed by the local Rockets for Schools project, with help from the Aerospace States Association (ASA). This is a continuation of last year's project which included ATV carried by a Super Loki from Sheboygan on May 4, 1996 to an altitude of well over 30 miles. See Feb QST or the Web site (<http://www.phy.mtu.edu/rocket>) for any details on last year's payload and this year's schedule.

The Rockets for Schools project is intended to increase student interest in science, math and aerospace sciences. This year students will not only participate in the sub-orbital rocket launches but will also help to launch student-constructed, Tripoli approved, high-power amateur rockets as well. Students from each congressional district in Wisconsin and Michigan were given an opportunity build their own high-power rocket, with their own payload, to be launched from the Sheboygan Spaceport during the weekend event.

The center piece for the weekend will be the launching of two sub-orbital Super Loki rockets to an altitude of over 30 miles. The Super Loki rockets were donated to the project by the Aerospace States Association and will be launched by a professional crew from the Florida Space Port Authority. Based on the success of the Amateur Radio Television payload last year, Amateur Radio equipment for this year's payload is also being constructed.

Super Loki Payload I (1:15 pm) will have B&W ATV on 434.25 MHz and Morse ID and telemetry on the audio subcarrier. The ATV transmitter is an ATVM-70 from PC Electronics, boosted to 1W using an SAU35AH UHF power module. Payload I will include an experiment to investigate the influence of different optical filters on the image quality. This payload is packed with battery power and should provide images for as long as two hours as it descends into Michigan.

Super Loki Payload II (3:15 pm) will have ATV (439.25 MHz), and carry a Jupiter Zodiac GPS receiver. A microcontroller will form APRS compatible AX.25 output, and be sent on audio. The race is on to interpret the binary output of the Jupiter board to supply data above 57,000 feet. Even if that is not possible, APRS data should be available below 57,000 ft. The current plan also calls for the development of an on-board frame-grabber. The frame grabber will allow a smaller number of individual video frames to be sent many times allowing for improved images after video averaging, post processing, etc. A Wisconsin Space Grant has been applied for to help with the post-processing and production of educational materials from the launch. Please keep your video and audio tapes.

A high-altitude balloon launch is anticipated, however a time has not been set, but is expected to be at least 2 hours before the 1:15 rocket launch. A schedule for the balloon launch will be available from <http://www.earthlab.com/rockets>. If you have questions or would like to help with this event, please do not hesitate to contact myself ([heineng@orbitec.com](mailto:heineng@orbitec.com)). Help is needed to organize, launch, and track (fox hunt) a balloon, possibly with ATV or APRS. Dayton Hamfest goers should even be able to track our north-lying payloads if they have sufficient horizon clearance. Even a simple (cheap) VHF beacon or IDer would be a fun balloon payload.

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# The Computer

By Stan Kaplan, WB9RQR  
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## No. 41: Divide and Conquer

At the Ozaukee Radio Club breakfast last Saturday (8 Feb 97), Dave Barrow, N9UNR, and I were talking about the huge size of hard drives nowadays. He is in the market for a new computer, and knows that it is wise to think about partitioning the drive into several "logical" drives, rather than having just one huge drive C:, but couldn't remember the numbers to help him make the appropriate decision concerning how large each partition should be. I promised to look up the numbers, and decided you might like to have me share them with you. Actually, I touched on this subject in Number 29, which appeared in the March 1996 issue of BSSS.

Why partition your large drive into more than one "letter"? Overhang. Remember? Suppose you create a file with a simple text editor that contains one sentence (this one). I just did, and it occupies exactly 90 bytes, including the parentheses and period at the end. So, you have used up 90 bytes of space on the floppy, right? Wrong! The smallest "chunk" of information that DOS can write to a floppy disk is 512 bytes (the same is true for all versions of Windows, since all versions of Windows use DOS to handle reading from and writing to hard and floppy drives). That means that when I saved the file, 512 bytes of space were reserved for the file (I named it "SENTENCE.TXT", even though only 90 bytes were used. Those 512 bytes are now unusable for any other purpose whatsoever, unless I erase the file. Exactly 422 bytes of space (512 - 90) are wasted, because they hold none of my data. That 422 bytes is called overhang.

Well, that is not such a big deal. Not on a floppy disk. However, the size of that "smallest chunk" is not the same on all size hard drives (by the way, that "smallest chunk" is also known as a cluster or allocation unit). Take a look at the following table.

PARTITION	BYTES	OVERHANG (with a 90 byte file)
Drives up to 16 Mb	512	422
16 to 128 Mb	2048	1,958
128 to 256 Mb	4,096	4,006
256 to 512 Mb	8,192	8,102
512 Mb to 1Gb	16,384	16,294
1 to 2 Gb	32,768	32,678
2 to 4 Gb	65,536	65,446

You can see that there is a lot of wasted space when you write a small file, and that wasted space increases markedly as the hard drive gets larger. For example, the smallest chunk of space that can be allocated on a 512 Mb hard drive is 16 kb (16,384 bytes). Almost all of it is unused (and unusable) space with a 90 byte file; 16,294 bytes are allocated and cannot be used for any other purpose.

You might expect that this waste of space can be gotten around - just don't write any little files. Right? Wrong. If you write a 8,190 byte file to our example 512 Mb hard drive, only 2 bytes are wasted. But, if you write a 8,195 byte file, 3 bytes over the minimum sized chunk, 8,189 bytes are wasted. You completely filled up one allocation unit (8,192 bytes), and the 3 bytes left over went into another one. That second allocation unit also is reserved for exclusive use of your file, even though you only have 3 bytes to stick in it.

So what is the overhang in your machine? Of course, there is no way to know without a thorough analysis, but several writers have suggested that the average overhang equals about half the cluster size. That means if you have a new 1.2 Gb hard drive (a popular size today), you should multiply 32,768 ÷ bytes (16,384) times the number of files on your drive to estimate overhang. The drive I am writing this article on is 1.6 Gb, partitioned as one big drive C: since it is new and I have not finished organizing it yet. CHKDSK tells me it contains 4,529 files. That means I have about 72 Mb of overhang on my drive at this moment. Although that is less than 5% of the drive's size, it is larger than the total size of most hard drives in use five years ago!

Well then, what is the answer? How should one approach the partitioning problem? There are some rules of thumb, which revolve around the idea of making the drive work for you as efficiently as is possible. Don't

one of the size jumps listed in the table above. Beyond that, it is best to keep your partitions to below 512 Mb. Here is the result of those suggestions:

SIZE OF DRIVE	NUMBER OF PARTITIONS	DRIVE LETTERS
Up to 127 Mb	1	C:
128 to 255 Mb	2	C:, D:
256 to 511 Mb	1	C:
512 Mb to 1.023Gb	2	C:, D:
1.023 to 1.535 Gb	3	C: - E:
1.536 to 2.047 Gb	4	C: - F:
2.048 to 2.559 Gb	5	C: - G:
2.560 to 3.071 Gb	6	C: - H:
3.072 to 3.583 Gb	7	C: - I:
3.584 to 4.089 Gb	8	C: - J:

This scheme is somewhat arbitrary and of my design, others might argue with it. On the other hand, it limits the average overhang of smaller drives to 2 kb, and the larger drives to about 4 kb. This approach also allows for dedicating logical drives to specific functions. For example, my installation of Windows 95 occupies somewhat over 100 Mb; I could nicely fit Win 95 and associated programs into one partition, Microsoft Word (about 60 Mb) and associated word processing programs into another, and so on.

Whatever you do, do it for a logical reason. However, realize that we humans are never satisfied; when you get it just the way you want it, your desires will change and it will be time to try some other scheme! Happy computing!

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Did you operate in the Wisconsin QSO Party? Whether you made 1 QSO or 1,000 contacts, please send a photo of yourself at your station to WARAC, P.O. Box 1072, Milwaukee, WI 53201, or to the editor, address on page 2, to be printed in the results issue in June or July. We heard you; let us see you, too!



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Take a License Exam: The M.A.R.C. Volunteer Examiner Team will be testing on Saturday, May 3rd from 9:00 A.M. until noon. If you are testing, bring a photo copy of your original license or C.S.C.E. (if any), two forms of I.D. (one photo I.D.) & \$6.25 for the testing fee.

Attend the Gordon West Show & other Forums: On Saturday at 2:00 P.M., Gordon West, WB6NOA, will present another of his action-packed shows. In addition, a series of short forums will be presented through out SuperFest by reps from several of the participating manufacturers. So far, some of the topics will include: Weak Signal Reception/Satellites • DX • Computer Software and Ham Radio • Packet/Digital Communications • Audio Innovations • DSP Basics • More!

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If you can't attend - Call during SuperFest hours to check on any Specials, Closeouts, etc. that may be going on during this event.

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HERE AND THERE

Continued from page 5

radio TNC for possible use later in the flight. If power conservation measures are successful, the mission control team will advise SAREX and the astronauts to initiate use of the packet radio system, which also includes one of the Shuttle Laptop computers.

Reports and QSLs go to ARRL-EAD, STS-83 QSL, 225 Main St, Newington, CT 06111-1494. Include the following information: STS-83, date, time in UTC, frequency and mode (FM, voice or packet). You must also include an sase using a large, business-size envelope if you wish to receive a card.

-AMSAT News Service/SAREX Working Group in  
The ARRL Letter, 3/14/97

## Code characters frozen during QSOs

In a recent report on a recent DXpedition to Antarctica, the League of Radio Relaying Americans' Technical Committee of Propagation has disclosed an unusual cold weather effect on radio transmissions.

According to Committee Chairman Dr. E. Flux Norgate, the DXpedition experienced temperatures below -100 degrees F on three occasions and, each time the temperature fell, QSOs would be interrupted for up to 30 minutes because CW characters either froze or stuck together as they left the antennas, making communication impossible. On one occasion, a complete transmission's worth of CW froze solid to a radio hut, trapping the occupants for 18 hours. On another occasion, the Morse code was transmitted all right, but stuck together so badly that the receiving station could not copy it.

Thus far, the LRRA has no explanation for the phenomenon.

The GEARVAKT Bulletin



# HAM RADIO STORM SPOTTERS: What, how, and why they do they do it

By Skip Voros, WD9HAS  
svoros@execpc.com

Over the past year severe weather awareness has grown dramatically, thanks in part to TV programs, Hollywood movie makers, and mother nature herself, who provides the greatest and often deadliest show on earth: the summer hurricanes on the east coast, the fires, floods, wind storms on the west coast, tornadoes in the plains, and lots of tornadoes in Wisconsin on July 18th, 1996, especially the top-rated Oakfield twister in Fond Du Lac county.

Since severe weather frequently threatens our lives and property, existence, and our government is required by federal law to warn the public of hazardous events, someone has to keep an eye on mother nature. So, enter the National Weather Service (NWS), a offspring of the National Oceanic and Atmospheric Administration, another offspring of the United States Department of Commerce.

Also enter the severe storm spotter. Many, but not all, are Amateur Radio operators who volunteer their time and personal and professional resources to report hazardous and life-threatening weather events to local authorities. Most ham radio reports are usually relayed to community authorities of the immediately threatened area, and or to the nearest NWS office in Wisconsin (Sullivan/Milwaukee, La Crosse, or Green Bay). Visit our homepage for a list of severe weather repeater frequencies, and Bulletin Board System (BBS) for a list of NWS sponsored severe weather training locations.

<http://www.execpc.com/~svoros>

Ham radio storm spotters come from a wide cross section of the population: white/blue collar workers, doctors, and students, just to mention a few. However, we all have a strong sense of public service, emergency communications, and doing something that justifies our very existence in view of the fact that big business wants our spectrum.

Because severe weather can sometimes develop so quickly that it is impossible to warn the public rapidly, even with remote sensing equipment (Doppler radar, satellites, smart and Meso weather networks), and because technology is not 100 percent foolproof (it misses things, makes mistakes, breaks down), and that most severe weather events are small in scale, ham radio spotters are essential in offering ground truth observations.

Our friendly ham radio storm spotter comes in two variations: The stationary and the mobile operator. There are pros and cons for each mode.

The STATIONARY ham generally operates from his/her home, office, or work location. Their sites are often climate-controlled, easily accessible, and require a clear view of the sky, especially westward. Large

population centers are typically the greatest core of ham operators, and it is thus with a ham spotter network. As the population area thins out, so does the ham spotter base. This is why ham operators in the outlying areas are critical .... more are needed.

Being at a familiar location generally eases stress and tension for the spotter, raising the levels of objective reporting. (Speaking of reporting, remember who is listening; it may be fire, police, radio, TV, scanner people, etc. One bad-sounding report can ruin the efforts of 10 good reports! Think before you push the button.) Stationary spotters also have better knowledge of the local surroundings and can thus offer point-specific information if needed. Should the weather become life-threatening, stationary operators generally have on-the-spot protection.

Stationary ham radio storm spotters are disadvantaged because of numerous man made and natural structures which can limit spotting, thus allowing some events to go undetected. (But we do need some place to mount our antennas!) By the very nature of being stationary, you must be in the right place at the right time.

Operating from your car, truck, or van is also considered MOBILE in the spotter community, as in the ham community, but it is the more complicated and dangerous mode of weather spotting. Mobile operators are free to drive around to known or suspected action areas of severe weather. This mobility increases the probability of detecting and verifying severe weather events, and also allows for rapid response to damaged areas so that we can offer disaster assistance communications -- on the spot!

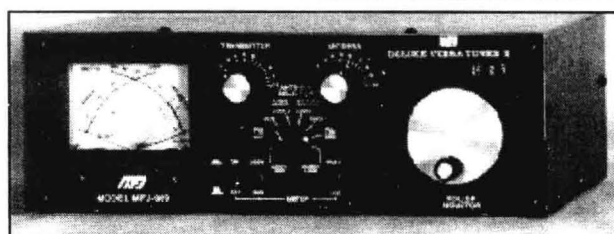
Ham radio operators who are mobile should have a high degree of commitment to auto safety and advanced preparations. Vehicles and radio equipment must be frequently checked for proper operation. Severe weather areas provide enhanced risk for storm-related accidents, injuries, mechanical failures, poor to zero visibility, slippery roads, flooded roads, wet brakes, hydroplaning, muddy tires, high winds, flying debris, large windshield-breaking hailstones, unfamiliar surroundings and unknown escape routes.

All of these elements can increase your Stress, Excitement, and Tension levels ("SET" effect) and reduce your objective reporting. The end result is you may give a BAD sounding reporting, while your fellow hams had the nine other good reports.

Finally, mobile amateur radio operators making severe storm reports -- who are serious about what they're doing -- operate in pairs. One driver and one navigator. The BEST HAM RADIO STORM SPOTTERS THINK SAFETY FIRST!

(Editor's note: A memorial to radio amateurs who were killed while performing public service communications work is located at ARRL Headquarters in Newington, CT.)

## NEW PRODUCTS



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MFJ presents the world's only 300 watt AirCore™ roller inductor antenna tuner .. featuring the widest matching range of any full featured antenna tuner .. \$179.95!

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MFJ-969 300 watt roller inductor antenna tuner is protected by MFJ's famous NO MATTER WHAT™ one year unconditional warranty. That means that MFJ will repair or replace (at their option) your product for one complete year.

For more information or your nearest dealer, contact MFJ Enterprises, Inc. 300 Industrial Park Road; call 601-323-5869; FAX: 601-323-6551; INTERNET WEB SITE: <http://mfjenterprises.com>; or order toll-free by calling 1-800-647-1800.

MFJ news release

## Central Wisconsin Repeater Association's Baraboo 146.88 repeater will be back

All details are not yet nailed down, but John Schroeder, K9YXW, tells BSSS that, thanks to many caring people, wide-area repeater K9YXW/R will be back.

One detail not known precisely is when the new tower will be erected and ready for installation of feedline and antenna; another is exactly when the new antenna and Heliac feedline will arrive. Estimates about the new tower indicate that it will be the same height as the original, and a likely time for completion of its erection is the end of May.

The repeater, which has for years been located on the tower of Oldies 94.9, WOLX-FM, and which has been a mainstay of public service work (Skywarn, in particular), was taken off the air - as was WOLX - when the 654-foot tower came down on New Year's Eve, 1996.

The repeater will take on a new "identity": its call sign will be a "retread". It will revert to the days when repeaters all had "WR" (the "R" to indicate "repeater") call signs, and the new call will be one sported once before by the CWRA systems: WR9ABE. CWRA also operates the 146.94 repeater at Pine Bluff, near Madison.

More information, including acknowledgements of donations, will be forthcoming as things begin to move forward. Thanks to John, K9YXW, CWRA Board President, for this information.

**If you are reading someone else's copy of  
BSSS, why not have your very own? A  
subscription form is on page 5**

## Stardust and Me

By Richard R. Regent, K9GDF

Want to hear some free live Cabaret music? Would you like to see me play clarinet in a five piece music ensemble? If you do and are near Milwaukee, stop in the Broadway Theatre Center (158 North Broadway) on Monday, May 5, 1997, at 7:30 p.m. The admission is free and there will be ample free parking available after 6:00 p.m. You'll enjoy seeing the sweeping staircase before you enter the smoke-free theatre, beautiful decorations, large vases of flowers and majestic draperies which all add to the charm of the room and the enjoyment of the program.

We'll play about twenty Cabaret songs, from "I Got Rhythm" to "Stardust". My wife, Barb N9DIJ, and I wrote the clarinet arrangements and some of the other parts. We used our home computer, Quick Score Professional program and electronic keyboard. There are about 400 sheets of music, not counting any of the singers rehearsal pages! The instrumentalists (playing grand piano, string bass, violin, flute and me on clarinet) will back up some local and professional singers. This is not a sing along, so plan to just sit back and enjoy the show.

There will be free refreshments afterwards or you may leave when ever you want to. Bring your friends, spouse or a significant other. Hope you can talk to Barb and me afterwards. See you there.

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## Shabop Named to FCC

The Clinton Administration has named Ms. Annie M. Shabop to a seven-year term on the FCC.

She replaces outgoing commissioner Lucy Swill Dingler.

Ms. Shabop formerly operated a coin stacking machine at the Bureau of the Mint. Prior to that, she spent several years as a professional alligator wrestler.

At a press conference following her appointment, Ms. Shabop gave her impressions of Amateur Radio today. "What the hell is Amateur Radio?," she said.

GEARVAK! Bulletin

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**FOR SALE:** Computer desk and printer table. \$100 or best offer for both; you pick up. If no offers, they become kindling wood. Jim Romelfanger, K9ZZ, 412 1/2 Ash Street, Baraboo, WI 53913. (608) 356-4031. [smokesigs@baraboo.com](mailto:smokesigs@baraboo.com)



# Little LEO battle moves to next level

Proposals by the low-Earth-orbiting satellite industry -- the so-called "Little LEOs" -- to share spectrum with Amateur Radio at 146, 220 and 440 MHz were among those turned in this week to the FCC advisory committee that's planning for WRC-97. But the Little LEO proposals were not scheduled for inclusion in the committee's recommendations, because the working group involved did not agree to do so. The various informal working groups that have been sorting out numerous proposals for possible consideration at World Radiocommunication Conference 97 offered their reports March 5 to the FCC's WRC-97 Industry Advisory Committee. The report of Informal Working Group (IWG) 2A, which wrangled with proposals involving mobile-satellite services, includes the Little LEO's controversial "flexible allocation" plan to share spectrum with amateurs and others -- but only as an annex to the report that also includes the objections raised by other participants, for consideration and disposition at a higher level.

As part of their flexible allocation strategy, Little LEO interests last month proposed including 219-225 MHz in their list of desired allocations for the nonvoice, nongeostationary (NVNG) mobile-satellite service. Little LEO targets now include 146 to 148, 219 to 225 and 430 to 450 MHz. The ARRL and AMSAT were among those objecting.

The Little LEO flexible allocation strategy for WRC-97 -- submitted as IWG-2A/86 (Rev. 6) -- is to propose broad allocations. The apparent theory is that most administrations would find reasons to oppose Little LEO use of specific bands in the crowded spectrum below 1 GHz, but that a broad allocation would permit different implementations in different countries, depending on local circumstances. At a February 13 IWG-2A meeting, a coalition of spectrum interests -- including land mobile, amateur, broadcasting, and military -- opposed the flexible allocation concept on several grounds.

IAC Chairman Scott Harris told participants at the March 5 meeting that the committee was only advisory, and that the government will make the final decision on its ultimate WRC-97 positions. The Final Report of the Industry Advisory Committee is expected to go to the FCC in about two weeks.

The ARRL Letter, 3/17/97

# Radio Amateur Callbook goes CD-ROM only

It's the end of an era for *The Radio Amateur Callbook*. Publisher Bob Hughes announced March 17 in a letter to *Callbook* distributors that the company is phasing out its telephone-book-size paper North American and international editions in favor of its CD-ROM product. The 1997 *Callbook*--the 75th edition--will be the last hard-copy version available. The letter cited "rising costs and increasing demand for electronic publishing" as the reasons for the company's decision to concentrate on the CD-ROM version, which includes worldwide listings. North American and international editions of the paper *Callbook*, a staple for years in many active ham shacks, sell for around \$40, while the CD-ROM sells for around \$50. The *Callbook* began publishing in 1920. *Radio Amateur Callbook* is produced by Watson-Guption Publications.

The spring CD-ROM edition of the *Callbook* will be available at the Dayton Hamfest, Hughes told distributors.

According to Hughes' letter, the company has "a limited supply of the printed edition" and anticipates that demand will be great once the word gets out. The last printed version will carry a label indicating "Last Edition of the Callbook." (For orders, call 800-278-8477; e-mail 103424.2142@compuserve.com.)

The ARRL Letter, 3/17/97

# Ham radio volunteer services bill introduced

Good news for ham radio volunteers: the Amateur Radio Volunteer Services Act of 1997 (HR 1013) -- introduced this week by US Rep Anna Eshoo of California.

If enacted, the bill would place volunteers in the Volunteer Examination Program and the Amateur Auxiliary under the protections of the Federal Tort Claims Act by affording them the same legal protections as employees of the Federal Government while they're carrying out such volunteer duties. "This bill would help protect the personal liability of volunteer Amateur Radio operators while performing duties on behalf of the Federal Government," Eshoo said in introducing the measure. As she explained it on the House floor, it's simply a question of fairness for volunteers, who risk damaging lawsuits while saving the government time and money. The bill was introduced with 21 cosponsors hailing from both parties.

HR 1013 is nearly identical to a bill introduced last year but not enacted and similar to a unanimously accepted amendment to the FCC reauthorization bill that Eshoo herself offered last year in the Commerce Committee.

On the House floor, Eshoo outlined the rationale behind the Amateur Radio Volunteer Services Act of 1997 in these words, and urged her colleagues to support the bill:

"Amateur Radio operators are self-regulated, with volunteer operators monitoring the airwaves for violations and administering licensing exams. This volunteer corps saves countless hours of staff time and resources for the Federal Communications Commission; however, because they are not Federal employees, they put their personal assets at risk in the event of actions taken against them as a result of their volunteer service to the Government."

"It is simply unfair that these volunteers who are saving the Government time and resources should have to risk their personal assets in carrying out their service. The Amateur Radio Volunteer Services Act would classify those individuals donating their time and expertise to maintaining the quality of the Amateur Radio airwaves as Federal employees only for the purpose of actions taken against them in the performance of their duties as self-regulators. This action will ensure the continued viability of the amateur radio community and continue to save the FCC and the Federal Government time and money that would otherwise need to be expended."

The ARRL Letter, 3/14/97

# League petitions for RACES flexibility

The ARRL is seeking a change in FCC rules to relax regulations regarding the Amateur Radio Service and the Radio Amateur Civil Emergency Service (RACES). The League wants the FCC to allow hams actively supporting emergency or disaster communication or involved in drills and tests to communicate "between and among" RACES stations and those stations registered with civil defense organizations operating under RACES. The League also wants the FCC to relax time limitations on RACES emergency drills and tests. This would permit stations operating under RACES (organized under the Federal Emergency Management Agency and operating under local civil defense agencies) to communicate, as necessary during emergencies, tests and drills, with stations operating under the Amateur Radio Emergency Service, or ARES (begun by the ARRL in 1935) or with other non-ARES or non-RACES stations also engaged in emergency communication or drills. Right now, RACES and ARES operate independently of each other, although some hams participate in both organizations.

Relaxing the rules "would permit intercommunication with other amateurs active in emergency communications, and enable a form of 'mutual aid' in the Amateur Service," the League said in its filing. "It is time that the Commission permit, but not require, communications between RACES participants and non-RACES amateurs during emergencies or emergency drills and preparedness exercises." The League said the Commission has an opportunity to eliminate a restriction that "arguably should never have been enacted in the first place," and that has "outlived whatever utility it may ever have had."

The League also seeks to increase the time limit on RACES training drills and tests from one hour per week to up to five hours per week.

The ARRL Letter, 3/21/97

# Where's the Loop?

What would you do in this condo? I tried the whip on a box and the whip in the window with a coiled tail. Only the TV in the next condo heard me 59. A ham with an OmniLoop just lying on his roof was talking to everybody. So I put one up during the SuperBowl when all the neighbors were busy, fed it with coax. Now I'm getting out on 40 thru 10. Add \$8 S&H.

20m \$59 40m \$79 75 or 80m \$99 160m \$139  
AntennasWest Technote S7 Info S1  
Box 50062, Provo, UT 84605 Order Hotline 800-926-7373



# Suspect Radio Sales Company • Since 1984

April Special Offer! Don't Miss This One!



NAV WALKIE-TALKIE  
This is the Navy's original NAV Walkie-Talkie, just the units for your local radio club's public service activities. These portable transceivers operate on a single channel between 3.1 and 3.2 MHz with an output power of 25 mW. Have control to push for talking and release for listening. Use four model 878 tubes, not included (not available) and special 766

138V battery pack (not available). Shipping weight, 126 lbs. Price only \$349.95 ea. or two units for \$699.95. FOB our warehouse. Accessories available include T49 rectal microphone, \$299.95 (used but clean), and J44 telegraph key w/shorting bar, \$16.50 (not available); NAV will not operate without this unit.

GEARVAK

YAESU ICOM KENWOOD THUNDERHILL ENT. ALINCO

# Lakeshore Hamfest

## Electronics & Computer Swapfest Manitowoc County Expo

Intersection of Hwys 42-151 and I-43 on County Hwy R (Follow signs to Expo Center)

## Saturday, May 10, 1997

Doors open at 8 a.m.

Friday night set-up for vendors till 9:00 p.m.

or beginning 6:00 a.m. Saturday morning

Accommodations for vendor drive-ins

FCC amateur exams

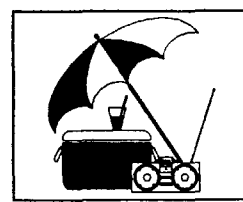
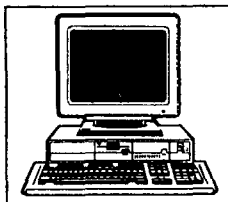
For more information, call

GLENN (414) 684-7096 any time

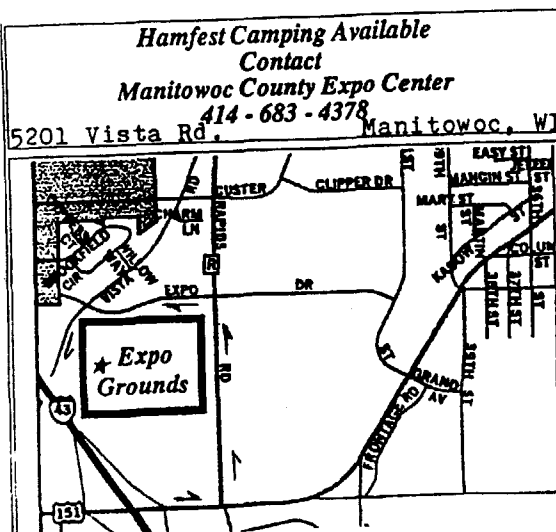
RED (414) 684-9097 days

Call - in repeater frequencies

146.61- or 147.03+



## FOOD - DOOR PRIZES - BEVERAGES



Send reservations to:

Manicorad Radio Club  
P.O. Box 204  
Manitowoc, WI 54221-0204

Please send  
a  
S.A.S.E.

Name: \_\_\_\_\_  
Street: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Advance Admissions \$3.00 each  
Reserved 8' Tables \$6.00 each  
Electric Outlets \$5.00 each  
TOTAL \_\_\_\_\_

\*Admission \$4.00 at the door

DXCC Field Checking at Expo

FCC Exams (all classes)  
Silver Lake College (Hwy 151)  
Test Registration closes at 9:00am

Please Send a S.A.S.E.

KANTRONICS TEN-TEC AMERITRON CUSHCRAFT MFJ

STANDARD

GREAT NORTHERN

TLC COMPUTER SERVICE

RENU SCIENCE

RED CROSS



# PARTICIPATING CLUBS AND ORGANIZATIONS

## Wisconsin Valley Radio Association

Kim Kunze, N9SDL, Secretary

P.O. Box 363 • Wausau, WI 54402

**Six Meter Repeater: 51.19 Input/52.89 Output**

### Meeting Minutes March 4th, 1997

The meeting was called to order by President Jim, N9SDI. Members present were: N9SDL, N9LIA, N9LIB, N9SDN, N9SDM, KB9FRB, KB9DZG, N9TTA, KB9MCZ, KB9DED, N9IAB, N9NRC, N9PHC, WB9LIA AND N9SDI. Due to the fact that the February club meeting was canceled due to bad weather the January meeting minutes as printed in the *Badger State Smoke Signals* were approved by members present from a motion of KB9DED and 2nd by KB9DZG.

The Treasurer's report was given by N9IAB indicated \$0 in cash, \$33.43 in checking and \$1918.02 in savings. With a motion from KB9DZG and 2nd by KB9DED the Treasurer's report was approved and passed by members present.

Upcoming Events were discussed, such as Dream Flight Training to be held at Rib Mountain Elementary 6:30 p.m. to 8:00 p.m. on 3/10, 3/31, 4/3 and 4/15. The WVRA will aid in the training of about 120 5th grade students from the Wausau School District to become Mission Specialists Communicators. They will then handle all of the communications during the week of May 5th through the 9th at Mission Control (Rib Mountain Elementary).

The Madison Hamfest was discussed and determined that for \$10 per person we can get a bus to drive us down. The deadline for sign-up will be the April Club meeting.

Old Business discussed was the receipt of our WVRA tax exempt status. A big thanks goes to Jack, N9LIA for all of his efforts in making this happen. The next thing that we can do is apply for State Sales Tax exemption. He also indicated that he has received tentative coordination of the new frequency pair for our 6 meter repeater with the new 1.7 MHz offset that is now the standard for Wisconsin. We should get confirmation in a couple of weeks of the 51.190 input and 52.890 output and then be able to order the crystals.

A letter of thank you will be sent to Russ Crass at TV 9 for the telescopic mast donated to our club.

Mike, KB9DED, set up a meeting with the ARES Committee. Members are: Rick, KC9NW; Dee, N9SDM; Scott, N9NQ; and Mike, KB9DED.

New Business: Jim, N9SDI, indicated that the Wausau Wheelers will be having two bike races this summer and will again

be looking for volunteer communicators from our club. The races are July 20 which their Biathlon which is a smaller race from the Gear Grinder to be held September 7th. The formation of a committee of N9SDL, KB9DZG, KB9MCZ, and N9IAB to discuss and plan for a Special Events Station activity. We are also looking for a Net Control Operator for the 2nd Wednesday of the month as Dee, N9SDM, is going to give someone else the chance. Thanks, Dee, for you time in being Net Control. Wausau West High School is interested in starting a Ham Club, getting operators licensed and set up a packet station. They are looking to the WVRA for possibly conducting the classes for Technician and possibly donating a radio, TNC and antenna. We will check back into this project this summer prior to the start of classes next fall.

Just a reminder that the Elections for the WVRA board will be held at the April meeting, and dues will also be collected at that time. Dues are \$20 for individual and \$35 for a family membership. Dues can also be mailed to WVRA P.O. Box 363, Wausau, WI 54402-0363.

The membership present voted to send \$100 to the CWRA (Central Wisconsin Repeater Association) to help in the restoration of their repeater system. The tower came down in an ice storm on New Year's Eve. Any individual donations can be sent to CWRA P.O. Box 802, Madison, WI 53701.

Meeting was adjourned with a motion from N9LIA and 2nd by N9TTA.

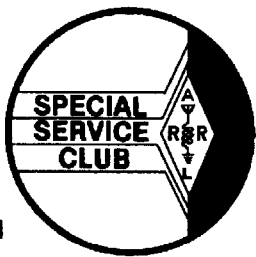
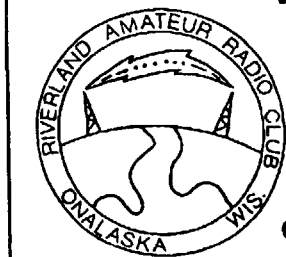
The program for the evening was discussion of the exciting Dream Flight Program that will be in its 5th year this May 5th - 9th. Some of the things we as a club will be involved in at Mission Control: 2 meter communication between Mission Control and the Apollo Condor Shuttle. Packet communications between the 13 elementary schools, voice communications between schools via the School Districts repeater system, and, new for this year is the Special Events Station that we will be operating from the "Voice of Mission Control". We will operate daily from 15:00 UTC - 21:00 UTC on 14.265, 21.350, 28.450 and 146.64. Certificates will be available for confirmed contacts. We will also be working the MIR space station on passes that will allow AOS (acquisition of signal).

Respectfully submitted,  
Kim Kunze, N9SDL  
Secretary

## Riverland Amateur Radio Club

Dan Abts, N9PZC  
Secretary

Club mail address: P.O. Box 621  
Onalaska, WI 54650



At press time, nothing had been received for publication from the Riverland Amateur Radio Club. The minutes were sent as a file attachment via a third party, but the attachment wasn't attached.

**Thank you for reading Badger  
State Smoke Signals!**

## The Racine Megacycle Club



Club Station W9UDU • Racine, WI

ARRL Affiliated

Providing Communications for American Red Cross and ARES

Mary Urban, N9ZWE, Secretary

c/o RMC • P. O. Box 3 • Racine, WI 53401-0003



### MEETING MINUTES March 10, 1997

March's meeting was held at the Community Policing Station at Regency Mall. Our host was Officer Dave Voss, WB9-USI.

The meeting was called to order by President Rob Madson KF9ZT, at approximately 7:30 PM. Those present were:

Rob	KF9ZT, President
Kenny	N9WHR, Vice President
Mary	N9ZWE, Secretary
Dave	AA9HL, Treasurer
Lee	N9VNU, Activities Director
Kathy	N9ZWN
Bill	W9OVZ
Dan	KA9OIL
Jim	WA0PFV
Spence	W9LDH
Bob	W0WLN
Richard	WA9HOH
Alan	N9ZWJ
Gene	WB9ZKY
Clare	N9MBF
Bill	KB9PUD
Rick	KG9ER
John	N9RGV
Dave	WB9USI
Don	KB9HAM
Larry	WA9JMO
Joseph	KB9HSJ

Rob, KF9ZT, started the meeting with everyone in attendance introducing themselves. Two new members were present. KB9PUD just took his test and passed the previous Saturday. Rob updated everyone on the progress of the new radio room at the Red Cross Building. It should be completed by the April meeting.

Larry, WA9JMO, gave an update on the present ham class. Two of the students took their test and one passed. Even though KB9PUD passed he will still finish the class. Several attempted to take the test and passed one or the other portion of the test. Bill, W9OVZ, will be teaching the class about QRP this coming Sunday.

Lee, N9VNU, sent around a sign-up sheet for Field Day. He gave a summary of what the event is for the benefit of the new members. It will be held June 28-29

at Larry, WA9JMO's, farm. Bring your tent and fishing pole. Kathy, N9ZWN, will be in charge of food again this year. Please sign up no matter how long you plan to spend there so everyone can be accommodated.

The treasurer's report was given by Dave, AA9HL. It was accepted as read.

Rob, KF9ZT, said everyone is going to have to make a greater effort to increase the club membership. If everyone could get one more person by the end of the year it would make a big difference.

The minutes printed in the last *Smoke Signals* were accepted as is.

Mary, N9ZWE, again asked for help in finding more of the history of the club. If anyone knows where to contact former board members please let her know. Help is also needed to fill in some of the missing dates, etc.

The club now has a home page with the *Racine Journal Times*. It will need to be fine tuned, but it is up. They goofed up Mary, N9ZWE's, call sign and phone number on the home page. These will have to be corrected.

It should be noted that the wrong date of death was printed on the Ham Banquet flyer for Bruce Zabler, K9RRS. It should be November 25 instead of 26.

Richard, WA9HOH, brought a list of silent keys that he has been accumulating over the years. It is not complete. A discussion was held about updating it and possibly making a plaque to honor these hams. Mary, N9ZWE, will make copies of the list of silent keys and send it to some of the older members in an attempt to update the list.

Rob, KF9ZT, raised the point of changing the meeting night to accommodate the Red Cross. Kathy, N9ZWN, gave an update of the previous weekend's Ham Banquet. It's being considered to include Milwaukee Hams in the event.

Larry, WA9JMO, received the Ham of the Year Award and the Olin Fox Award. Everyone who attended the event was very pleased.

Dan, KA9OIL, gave the Fox Hunt update. The next hunt will be April 25.

*Continued on page 11*

## FCC issued callsign update

The following is a list of the FCC's most recently issued call signs as of March 3, 1997.

District	Group A Am Extra	Group B Advanced	Group C Tech/Gen	Group D Novice
0	AB0EI	KI0GY	++	KB0ZWT
1	AA1RU	KE1HG	N1YQP	KB1CCJ
2	AB2DG	KG2KE	++	KC2BAN
3	AA3PL	KE3YZ	N3YUG	KB3BSG
4	AF4BD	KU4DB	++	KF4PMR
5	AC5LO	KM5HI	++	KC5ZFU
6	AD6AM	KQ6NI	++	KF6JHJ
7	AB7UH	KK7FU	++	KC7UWP
8	AA8ZJ	KI8BE	++	KC8GGT
9	AA9TZ	KG9JO	++	KB9PSB
N Mariana Is	NH0A	AH0AX	KH0GF	WH0ABG
Guam	#	AH2DC	KH2RM	WH2ANT
Hawaii	AH7Q	AH6PA	KH7CS	WH6DDQ
Am Samoa	AH8O	AH8AH	KH8DH	WH8ABF
Alaska	AL0D	AL7QT	KL0EC	WL7CUC
Virgin Is	WP2Y	KP2CJ	NP2JP	WP2AIH
Puerto Rico	NP3B	KP3AQ	NP3KP	WP4NMY

# New prefixes are available for this block, but none have been issued.  
++ All call signs in this group have been issued in this area.

*The ARRL Letter, 3/14/97*



Racine Megacycle Club

Continued from page 10

Gene, WB9ZKY, and his group will be the fox. It will begin in the west parking lot of Regency Mall at 7:30 PM. If you need help in building an antenna, contact KA9-OIL. He has plenty of plans.

Don, KB9HAM, brought a copy of a web site from a club in Eau Claire. He proposed that a committee be set up to investigate the possibility of the club setting up their own web page. A discussion was held as to whether it would be worth the cost. We will have a more in-depth discussion at the next Board Meeting the first Monday in April at Reflections Restaurant. Everyone is invited to attend.

Larry, WA9JMO, announced that Don Crab will be at UW Parkside Thursday night talking about computers.

Sylvia Schimanski was the winner of the 1997 Hidden Transmitter Hunt trophy, even though she is not licensed. She is a student in the present class. Larry said that there is an individual that is willing to

make a substantial donation to the club to build our own facilities. He can get block donated and the Army Corp of Engineers to build it. We would have to pay the cost of the diesel fuel and permits. A discussion was held.

Lee, N9VNU, announced that the next meeting will be held at Racine Metal Fab. Rob, KF9ZT, will give a demonstration. Lee also gave a summary of the activities for the next few meetings. The meeting was adjourned at 8:21 PM.

Officer Dave, WB9USI, gave a presentation of the Community Policing Station following the meeting, and the impact it has made in the community.

The February 28 Fox Hunt winner was the team of Gene, WB9ZKY, Dave WB9-USI, Cheryl, WS9P, and Bonnie, WB9-ZKX. The schedule for the rest of the year is: April 25, May 23, June 20, July 18, Aug 15, Sept 12, Oct 10, Nov 7, Dec 5. Contact KA9OIL for further information.

The club's home page is at <http://www.racinecounty.com>

Don't forget coming up: Hamfest, Field Day, and the Ham Cruise..

Mancorad Radio Club

Dave Shemchak, KB9KQA,  
Secretary

P.O. Box 204 • Manitowoc, WI  
54221-0204



2-Meter Repeater: 146.01 Input/146.61 Output

Meeting Minutes  
March 12th, 1997

Janice, N9IQZ, brought the March meeting of the ManCoRad Club to order at 1931 hours. Introductions were made of all present members.

The minutes from the February meeting, as published in the *Badger State Smoke Signals*, were approved. The motion was made by Barney, N9XER, and seconded by Red, N9GHE.

The Treasurer's report was made by Glenn, AA9MT. A motion to approve the Treasurer's report was made by Eric, WD9IAB, and seconded by Barney, N9XER.

Janice, N9IQZ, passed around an Email message, forwarded by Jim Romelfanger, K9ZZ, about an e-mail virus. The virus is supposedly activated when reading the infected message. It supposedly wipes the contents of your hard drive and passes itself on to 3 people on your e-mail list. Some say this virus is a hoax and some say it's for real. (Editor's note: It was found to be a hoax, but the following is very good advice nonetheless - K9ZZ.) The lesson to be learned here, is to purchase a good quality virus check program. You may never run into a virus, but as the old saying goes, "an ounce of prevention is worth a pound of cure!"

Glenn, AA9MT, reported on the planning for the Hamfest. We have approximately 25 tables taken so far. Letters were sent to neighboring clubs to invite them to our Hamfest. The list of raffle prizes has not been finalized yet. We are still waiting for some information from a couple of vendors. A sign up roster for Hamfest help was passed around. members not at the meeting please contact Glenn, AA9MT, and let him know what areas you could help with!

Janice, N9IQZ, asked for volunteers to coordinate the Sunday morning 2-meter net. It seems, in the last few weeks, that the net has been late or not been held at all because of a lack of coordination. Barney, N9XER, suggested, due to a large number of people "testing" their equipment at 10:00 a.m., that the first person to "ker-chunk" the repeater is net control! Seriously though, Barney, N9XER, and Ron, WS9X, volunteered to coordinate the Sunday morning 2-meter net. Anybody interested in being net control contact either Barney or Ron. I'm sure they would like the extra help to fill in when they aren't available.

Fred, W6BSF, and Eric, WD9IAB, volunteered to coordinate this years Special Event station aboard the USS Cobia. They will get together with the Maritime Museum management and plan the event. More information will follow in future months. For now, think about volunteering an hour or two to operate the station. I'm sure Eric and Fred will appreciate any help they can get!

Janice, N9IQZ, got a request from Larry, WB9FSQ, to set up an Amateur Radio demonstration for the Boy Scouts.

The Boy Scouts are having their Spring Camp-O-Rama at the Expo grounds in Manitowoc on April 18th and 19th. Plans are in the works to have various displays and demonstrations for the Scouts. Janice, N9IQZ, asked for volunteers to coordinate the event. Tom, KB9IJR, Eric, WD9IAB, and Swanee, N9QFY, volunteered to run the event. The club's equipment will be used for the event. Again, any members that want to help operate the station, contact one of the above!

A last reminder, any members who have not paid their dues will lose their subscription to the *Badger State Smoke Signals* at the end of the quarter! Contact Glenn, AA9MT, to take care of paying your dues!

Red, N9GHE, volunteered to coordinate the annual "After Hamfest Banquet." More information will follow as it becomes available!

Janice, N9IQZ, asked the membership if they would be interested in having a program during the meeting. The majority of the members present said they would like a program during the meeting. Any Member who has an idea for a program contact Janice. Remember, it's fun to watch programs, but somebody actually has to put them on! All the members who would like to see a program should start thinking about a program that they in turn can put on! We have a wide variety of interests within our club, so we shouldn't have a problem finding topics for programs.

Weather Spotter training will be held on Thursday, March 29th, at 7:00 p.m. It will be held in Conference Room A of the Manitowoc County Sheriff's Building. Please enter the building at the South 9th street entrance. An alternate class for those who can't make the one in Manitowoc will be held in Reedsville. It will be held at the Fire Station on Wednesday April 9th at 7:00 p.m.

A motion to adjourn was made by Swanee, N9QFY, and was seconded by Ken, K9HAG. Meeting was adjourned at 1957 hrs.

Submitted for Approval  
David P. Shemchak, KB9KQA, Secretary

Meeting Attendance

Janice	N9IQZ
Glenn	AA9MT
Dave	KB9KQA
Eric	WD9IAB
Dick	N9QFY
Mary	KB9GOY
Tom	KB9GRC
Ken	K9HAG
Barney	N9XER
Ron	WS9X
Red	N9GHE
Paul	N9QFX
Bill	N9XEZ
Ken	WB9OBX
Denise	N4WGK
Roger	W9NPX
Bill	K9DUX
Fred	W6BSF

Wisconsin Nets Association Ltd.

Art Evans, KA9KLZ, Acting Secretary  
213 N. Jefferson • Cuba City WI 53807-1558

WISCONSIN NETS

Net	WNA	Freq.	UTC	CDT	Mgr.
BWN	Yes	3985	1100	0600	W9AYK
BEN	Yes	3985	1700	1200	KE9VU
WSBN	Yes	3985	2230	1730	K9UTQ
WNN	Yes	3723	2300	1800	N9MXW
WSSN	Yes	3645	2330	1830	N9BDL
WIN/E	Yes	3662	0000	1900	WB9ICH
WIN/L	Yes	3662	0300	2200	W9UW
NWTN	Yes	34/94	2330	1830	NS9Q
(Rhinelander area)					
RCRA	No	01/61 (Mondays CST)	2330 (Menomonie Area)	1830	KA9OMC
Gr. Bay	No	72/12 (Green Bay Area)	0145	2045	WB9NRK
ARES	No	4.65/5.25 (South East/South Central Wisconsin)	0100	2000	
RACES	No	3993.5	1300	0800	WA9OAY
(LSB Sunday)					

WNA On-the-air Meeting  
March 9, 1997

Chairman Carl Plotz, Jr., WB9JSW, called the meeting to order at 1831Z, March 9, 1997 on 3985 KHZ. The following members and guests were present:

WNA members N9BDL, W9CBE, K9FHI, WB9ICH, W9IHW, N9KHD, KA9KLZ, NS9Q, W9UW, KE9VU, W9YCV and guests WD9FRI and KA9-FVX.

The Chairman called for the approval of the minutes of the previous meeting. WB9ICH questioned the WIN/E report. Corrections were made and the minutes were approved.

WNA Treasurer, Bob Foster, N9UAR, was not present.

The Chairman called for reports. Reports started with ARRL officials.

ARRL OFFICIALS

**SECTION MANAGER** -- Roy, K9-FHI, reported that four OO's are needed in Wisconsin. See Roy for details. Also needed is a net manager for the BWN. Jim Merrill, W9AYK, the BWN N/M is now a silent key. Roy also made a plea for stations to pick up weather on the BWN. Carl, WB9JSW, and Gus, W9IHW need help.

**SECTION TRAFFIC MANAGER** -- Art, KA9KLZ, agreed with Roy on the need for help on the BWN. Art reported that Rob, KA9GBG, has been appointed as N/M for the WNN. Art also volunteered to act as WNA secretary for the rest of W9AYK's term.

**SECTION EMERGENCY COORDINATOR** -- John, WB9SMM, was not present.

NET REPORTS

**BADGER WEATHER NET (BWN)** -- BWN acting N/M, Gus, W9IHW, reported that Jim Merrill's (W9AYK) wife called him Friday Mar. 7 and told him Jim had died. Gus reported that there were

2800 checkins on the Weather Net and that Bill, AA0M, from Kansas relayed about 70 percent of the traffic due to long skip in the mornings.

**BADGER EMERGENCY NET (BEN)** -- Wayne, KE9VU, reported that the BEN is doing great with 22-23 checkins and 4-5 pieces of traffic. All NCS are filled and conditions are good.

**WISCONSIN SIDEBAND NET (WSBN)** -- N/M Gene, K9UTQ, was not present. Roy, K9FHI, WSBN Delegate, reported that the net was doing fairly well but needs some alternate NCS's. If anyone is interested, let Gene or Roy know.

**WISCONSIN NOVICE NET (WNN)** -- Rob, KA9GBG, was not present. Lee, N9BDL, reported that there are at least 2 or 3 checkins per net and the Novice Net is a good place to get some CW practice.

**WISCONSIN SLOW SPEED NET (WSSN)** -- Lee, N9BDL, reported that the net is doing good. Lee said he has good news and bad news. The bad news is that Ed, W9NGP, has asked to be relieved of his NCS duties because of health reasons. Lee said that Ed would be missed because of his good operating and unique net preambles. The good news is Mike, N9JIY, has taken the Monday night NCS spot. Traffic has picked up a little, with better band conditions.

**WISCONSIN INTERSTATE NET/EARLY (WIN/E)** -- Larry, WB9ICH, reported that the net is doing good, averaging 7-8 checkins. January had 214 checkins and February had 215 checkins. Traffic for both months was about 80 messages and time 330-340 minutes. Larry said that 9RN reps are always needed.

**WISCONSIN INTERSTATE NET/LATE (WIN/L)** -- Ron, W9UW, reports that propagation is still bad on the late net. Ron reports checkins are averaging 6-7. Ron said that they are using alternate means of passing traffic (packet/2 meters) while props are bad. Ron said that NCS and 9RN spots are good.

**NORTHWOODS TRAFFIC NET (NWTN)** -- Mary, NS9Q, reports that there is no net on Saturdays and Sundays

now. Nets are averaging 6-8 checkins and 1-2 pieces of traffic in 25-30 minutes per session. There were 20 sessions last month.

**DAYTIME 9RN** -- Roy, K9FHI, reported that the 12:30 p.m. session is on 7283 kHz and the 4:00 p.m. session is on 3985 kHz. The nets are over quickly and all business. Net control stations are needed on both sessions.

OLD BUSINESS

The Chairman asked the Picnic Committee to report. Roy, K9FHI, reported that Bob, N9UAR, has a spot located but Roy did not know where.

NEW BUSINESS

Lee, N9BDL, requested a moment of silence in tribute to Jim Merrill, W9AYK. Jim passed away March 7. Carl, WB9JSW, gave a tribute to Jim before the

moment of silence.

After discussion, a motion was made and seconded (N9BDL/K9FHI) to hold the June WNA meeting in conjunction with the Stevens Point Hamfest, which will be held in the Junction City Village Park this year. The meeting will be immediately after the WAPR meeting.

Roy, K9FHI, inquired about progress on naming the Wisconsin Traffic Handler of the year. Art, KA9KLZ, and Hale, W9CBE, reported that they will have a name by the annual picnic.

With no further business at hand, the Chairman called for a motion to adjourn. A motion was made and seconded (N9BDL/KE9VU) to adjourn. Motion carried and the meeting was adjourned at 1902Z, March 9, 1997.

Respectfully Submitted,  
Art Evans, KA9KLZ  
WNA Acting Secretary





# E.C.A.R.C. eau Claire AMATEUR RADIO CLUB

Carl Searing, W9NW, Secretary  
P.O. Box 1867 • Eau Claire, WI 54702-1867  
<http://www.edp.net/~mceraso/ECARC.html>

## MEETING MINUTES March 11, 1997

35 Present.

The meeting opened at 1930 hours with WD9HFT's continuation of last month's "Repeaters 101". This session dealt largely with repeater location and allocation, and the workings thereof. Very well done, very well received by an appreciative audience.

Following a roll call and the secretary's report, KB9R commented on the 28/88 antenna site situation. Per his assessment of the matter, the treasurer was instructed to send \$200.00 to assist in rebuilding.

KB9R also has the output tone unit for the /91 repeater, and will install it as time permits.

Hamfest stuff: There were discussions on the topics of, among other items, Ven-

dors; a more efficient PA system; the purchase of further club T-shirts (N9TUA was authorized to order five dozen, for Hamfest volunteers, and for sale); and door prizes. The main prizes have been purchased, and were on display at the meeting. WU9R suggested, and the club approved, that the normal amount of money be split; half going into prize money and half to be used as "Hamfest Bucks" redeemable at various dealers, (or some variation of this). Further door prize discussion is probable.

The membership was reminded that the April meeting will take place at the Labor Temple at 7:00 p.m. on April 12. Skywarn training for 3+ hours.

Lunch committee for the May meeting: KC9NN, KB9R.

*Respectfully submitted:*  
W9NW, Secretary

## Taylor County Area Amateur Radio Club

Tom Hrdina, N9GEN, President

2373 Willow Avenue • Medford WI 54451

### MEETING ANNOUNCEMENT

The next regular meeting will be held on Thursday, April 3rd at 6 p.m. (PLEASE NOTE TIME CHANGE!!) in the Emergency Government meeting room located in the basement of the sheriff's annex to the Taylor County Courthouse, corner of 2nd and Ogden Sts., Medford, WI. Talk-in on the 147.15 Medford repeater (+600 kHz) or 146.52 MHz simplex.

### MEETING AGENDA/PROGRAM IMPORTANT!!

Please note that the starting time for the April meeting has been changed from 7 PM to 6 PM. This change is for the April meeting ONLY. This change was made in order to accommodate the National Weather Service SKYWARN severe weather spotter's training session to be held that same evening, at 7 PM. It is hoped that all those hams coming for the SKYWARN training at 7 PM, will also be able to attend the club meeting at 6 PM. Details on the SKYWARN training session can be found below, under the ARES News column.

The agenda for the April club meeting is VERY IMPORTANT, and will consist of a discussion as to the continued, future existence of the Taylor County Area Amateur Radio Club. There has been a significant lack in attendance at monthly meetings over the past few years, and an apparent unwillingness among the current membership to run for office. All current as well as former members of the club are encouraged to attend and provide some input into this discussion.

### CLARK/TAYLOR COUNTY AMATEUR RADIO EMERGENCY SERVICE (ARES) NEWS

Mike Schoenfuss, N9GHZ  
ARES Emergency Coordinator

Don't forget to try to check into the weekly ARES net held Wednesdays at 8:30 p.m. on the Medford repeater (147.75/147.15). If the repeater is down or not functioning properly, alternate frequencies, in order, are 147.15 MHz simplex and 146.52 MHz simplex. You're also encouraged to volunteer for net control duty for the net.

### SKYWARN SEVERE WEATHER SPOTTER TRAINING

The National Weather Service-La Crosse Office will be conducting SKYWARN training sessions again this Spring in Clark and Taylor Counties, as follows:

Thursday, April 3rd, in the county boardroom of the Taylor County Courthouse in Medford. There will be two sessions, one starting at 2 PM and the other at 7 PM. The board room is located on the 1st floor of the courthouse. Park in the lot located off of 3rd St. and enter the main entrance on the east side of the building.

Wednesday, April 23rd, starting at 7 PM, at the Loyal American Legion Hall in Loyal.

All sessions will run for approximately 2 to 2 1/2 hours in length, and are open to the general public, so you're invited to bring along any guests or family members you would like. There is no fee charged for the training sessions. Training for all sessions will be conducted by Todd J. Shea, Warning Coordination Meteorologist with the National Weather Service office in La Crosse. A slide and video presentation is included as part of the training session. If you need directions, try a local repeater.

With the summer severe weather/storms season just around the corner, I strongly encourage EVERYONE to attend a session. Even if you've been to one in the past, this is an excellent way for you to refresh your training in what to look for and report in a severe storm situation. Also, we need to make a good showing with strong attendance numbers at these training sessions, because if attendance numbers are low, we may not be able to schedule them again as easily in future years. That would mean that as new Amateur Radio operators are licensed in our area, they would not be able to get this training as easily or quickly as they can now.

I will also be in attendance at as many of the training sessions as I can, and will have available ARES volunteer registration forms, SKYWARN vehicle stickers, and other related supplies for distribution as needed.

SIMULATED CLARK AND TAYLOR COUNTY ARES/SKYWARN NETS will hopefully be held in conjunction with Tornado Awareness Week (April 20 through April 26), if net control stations are available. N9GHZ, Emergency Coordinator for Clark and Taylor County ARES groups, may be serving as net control station for one or both nets. The nets will be held on Thursday, April 24, to coincide with county wide tornado drills that will include the sounding of sirens in county communities. Simulated SKYWARN nets will be activated on the 147.15 Medford repeater and the 146.775 Granton repeater at approximately 1:15 PM that day and will remain up until approximately 2 PM. ALL 2-meter equipped Clark and Taylor County area Amateur Radio operators are encouraged to check in to their respective county nets, if possible.

At University of Wisconsin, Stevens Point

# WATTS SNOO



WB9QFW 2-Meter Repeater 146.07-.67 and Club Station

P. O. Box 923 • Plover, WI 54467

## Meeting Minutes March 12, 1997

President Mary Eiden, KA9FAS, called the meeting to order at 7:35 p.m. This month's program was a videotape entitled *At Any Moment* by the ARRL. It was about the ARES and RACES. It was presented by Mike Pagel, KA9LAQ. It was very informative and enjoyed by all.

The secretary's report was, as announced by Secretary Mike Eiden, WD9JID, in the *Badger State Smoke Signals*. The treasurer's report was given by the treasurer Joe Larson, N9JW. Both the minutes and the treasurer's report were approved as read. Joe also gave a brief rundown on the Special Olympics coming up in June. He said we will give more information at a future meeting.

Bob Baird, W9NN, reported that the 985 repeater is working very well. Mike Pagel, KA9LAQ, stated that he still would like more formal times and dates if there is anymore foul language problems. He also stated that there are some instances that the input signal on simplex is stronger than the signal from the 985 repeater. After some discussion, it was decided that possibly putting up hardline from the antenna to the repeater should be done. It will be checked into.

Mike also stated that the next program he was planning on having was something weather related. He said that the emergency government director could come to the meeting. Scott Jasper, NE9U, said that the director asked him if we were interested in having someone from the Green Bay Weather Service. He said that he had

not given her an answer either way as of the meeting.

Scott Jasper, NE9U, reported that he is working on the prizes for the raffle. He has been checking on several possibilities.

It was reported that John Feltz, WA9-LWJ, had sent letters out to the vendors, magazines, and he is going to send out letters to the clubs. He had about 1000 flyers printed and after adding the talk-in frequency, it will be sent out to be put in *Smoke Signals*. Also, it was mentioned that Field Day will be held at Village Park in Junction City. The open pavillion will be available for us and also the indoor facilities will be open. It was also mentioned that equipment should be checked out before setting up.

There was no new business.

The meeting was adjourned at 8:28 pm.

Next month's meeting will be held on April 9, 1997 in Room A-107 in the UWSP Science Building at 7:30 PM.

### Attendance

Mike Eiden	WD9JID
Mary Eiden	KA9FAS
Scott Jasper	NE9U
Joe Larson	N9JW
Al Mallek	N9WBS
Al Mallek	N9WVM
Bob Baird	W9NN
David Tamres	KB9IIF
Mike Pagel	KA9LAQ
Chris Fix	

*Respectfully submitted,*  
Mike Eiden, WD9JID, CWRA Secretary



## SHEBOYGAN County Amateur Radio Club

Chris Jacobs, N9VKC, Secretary  
W4065 Dekker Rd., Waldo, WI 53093

The February meeting was replaced by SCARC's Valentine's party. I unfortunately was unable to attend. The minutes will be short then, but longer than last month's, eh?

I would like to congratulate Lyle Ten Pas on the award for Ham Of The Year. Lyle has really worked hard this last year to update and move the repeater and I think we all say that the repeater coverage is much better than it has been in a long time.

It is that time of year again when we start to ask the membership to begin thinking of next year's officers. We will be having a nomination system much like last year so start thinking of nominations.

I hope to see everyone at the March meeting.

73.

The March meeting of SCARC was brought to order by Penny, N9TCF.

It was discussed about amending the bylaws to accommodate the way elections for club officers have been held in the past. In the past, the vice president has proceeded to the position of club President the year after they serve their vice presidency. Last year we ran into the situation where the vice president could not continue with the becoming the president this year. After much discussion last year we had an open election for all positions.

This year the board has discussed at length different ways to run the elections so that things can run a bit smoother. A motion was made by Gene, N9WSJ, for the board to announce it's intentions of amending the constitution and notify all members so that a general vote can be held to do so. It was seconded by Steve, AA9SJ. Please attend the April meeting so that we can address this matter further.

It is getting close to that time of year again when special events need volunteers. Several organizations have already con-

tacted us and we are in need of people to attend these functions. June 15 is the Wings n Wheels event and last year we parked a whole lot of cars!!!! This year we could really use some more help!! We have also been asked to help with the July 4 parade and the parade July 26 for Hollandfest. Please get in touch with a board member if you can participate in any of these events.

Last month there was no regular meeting and in its place was the annual Valentines Dinner Party. This year it was held at Chizzy's in Waldo, and from what I hear all who attended had a great time. I unfortunately was not able to make the party.

Congratulations going to Lyle Ten Pas, WE9R, for Ham of the Year, Lyle's dedication and hard work to the repeater we ALL use is much appreciated.

Also receiving an award was Francis Goetel, AA9LV, for his support of special events. Francis volunteered and participated in every SCARC event last year.

This is especially appreciated by the board who really needs volunteers for these events. Thanks, Francis.

SCARC auto stickers were handed out to those who did not make it to the Valentines Party, along with yearly stickers. If you didn't get one, please contact Penny or another board member. The club is having a Kit Building day in which you can come to the RC Building and help build one of several TNC kits we have purchased. The tentative date is set for Saturday, April 12; look for further announcements of this on the Monday night net.

On April 10, there will be a weather spotters presentation by NOAA. If you would like to attend, please contact Mike, KF9SJ, for further information. Hope to see everyone at the April meeting.

73.



## Quarter Century Wireless Association Southeastern Wisconsin Chapter 162

**Larry McCalvy, WA9JMO**  
5400 Six Mile Road  
Radne, WI 53402



The word HAM is, and has been accepted as synonymous with Amateur Radio Operators world wide. But the origination of the acronym has been lost to history or buried among the various explanations that pop up in magazines or local QSOs. That is until NOW! After a long, diligent and meticulous search, I have unearthed this wily acronym's birth.

It appears that a long time ago, sometime after the turn of the century, a myriad of high power DX chasing Amateur Radio Operators living in Northern Wisconsin, all reach retirement age at about the same time and decided as a group to move to a warmer climate. They pooled all their money and bought into a very palatial condominium association in the deep southern sun belt region. A year later, after some financial difficulty with the new association had been resolved by a benefactor, the condos were completed. The Radio Operators moved to their new QTH; the benefactor also moved into the complex.

The DX hounds, anxious to begin chasing the rare DX were informed that the original agreement had been modified slightly during the financial crisis the previous year. It seems that the benefactor eliminated the clause authorizing exterior antennas, required a thin lead lined shield placed in every roof and wall of the association's buildings and required a lead lined 20 foot fence to be erected around the complex within six months of the building's occupancy.

The benefactor, in addition to the above, was granted absolute policy setting rights for the association as requested compensation for keeping the project out of bankruptcy.

The Radio buffs were livid, as a group they called on the association's benefactor

to protest his restrictions to their hobby. As a group they recognized the benefactor as a neighbor from their former Wisconsin community. He said, "Neighbors, for many years I suffered TVI as you chased DX from morning to night; I want peace and quiet in retirement. I have taken a few little steps to insure that my peace and quiet stays peaceful and quiet".

The radio group sought relief for their frustration in the courts. After months of testimony and court appearances, the judge told the group that their case was hopeless and they would just have to endure their misery. A cub reporter for the local newspaper, seeking something for the evening paper, just happened to be in court when the decision was handed down.

On the front page of the local news section that evening the story appeared with a headline stating that the condo's Hopeless And Miserable Amateur Radio Operators were antenna-less by court order. The group appealed and lost, appealed again and lost again. As printed and spoken reporting often tend to do, the plight of our radio enthusiasts trek was condensed. The Hopeless And Miserable Amateur Radio Operators story became the story about the HAM Radio Operators, and later just to the HAM's story.

Now you have another and just as reliable a source as to the origination of how Amateur Radio Operators came to be called HAMs.

Our March meeting, held at the Racine Airport's Air Museum on the 17th, was an informative interesting outing into the history of Racine's aviation. Thanks to Steve Bellgraph, K9ZL, for arranging the meeting and providing the coffee. Chuck Kontek, W9GKM, brought the Racine Kringle and donuts; and Fern Fisher, W9LCJ, an avid aviator in her own right,

provided a running commentary, augmenting Steve's walking tour through the building.

On Sunday the 20th of April, at 1 p.m., we will celebrate our Chapter's 10th Anniversary at Bentley's Restaurant in the Marriott Hotel, 7111 Washington Avenue (Hwy 20, 5-miles east of I-94) in Racine. Postcards will be sent informing all of the menu and price. We will have our history file displayed for viewing and comments.

Ed, W9NVK, and Marie Konicek took ten days out of the middle of February for an excursion to the Hawaiian Islands. Ed said they had a wonderful time and brought pictures to our March meeting to prove it.

The Greater Southeastern Wisconsin Ham Banquet was held on Saturday the 8th of March in Racine. Kathy Madson, N9-ZWN, the Banquet Chair provided the attendees with an outstanding event, arranged for all the door prized and the entertainment. Ray Wolfe, K9RI, (WB9-LST) provided digital music for our listening and dancing pleasure. Our treasurer, Bob Jensen, W0WLN, selected a table at the banquet and invited me to join the group. We had a rowdy bunch sitting in our circle; and even though we were the last table served, and I was scheduled up first at the microphone, we had a good time. The banquet recognized four local businesses for their contribution to Amateur Radio and their community with presentations of Certificates of Appreciation. Only Racine Metal Fab was in attendance and the certificate was accepted by Rob Madson, KF9ZT. Each year the Racine Megacycle Club, host of its monthly hidden transmitter hunt, presents a trophy to the person finding the transmitter the quickest and most often times. This year's winner, Sylvia Schimanski (Joe, KB9HSJ's wife), is not licensed, but is a member of our current Ham class. How hard can this transmitter hunting be when a non-Ham takes first place? (I will be getting verbal abuse for that last statement). Congratulation Sylvia!

The QCWA Chapter also made its second annual selection for the Olin Fox, K9AKG, Recognition of Excellence Award. The Recipient was Lawrence R.

McCalvy, WA9JMO. The plaque's inscription read as follows:

"For sustained dedication to furthering the community support objectives of Amateur Radio, the Southeast Wisconsin Chapter #162 of the Quarter Century Wireless Association is pleased to present this award. Lawrence R. McCalvy has served our hobby by leading efforts in organizing and teaching classes for new operators, writing for publications, organizing and promoting the annual Amateur Radio Banquet, organizing and participating in many Public Service Events and helping with many events promoting Amateur Radio to the public. Larry has also served as an officer of our QCWA chapter and has been instrumental in linking us with our sister chapters in Wisconsin. He has assisted in the initiation of several local nets. He has helped with the disposal of several ham radio estates. He has welcomed the Amateur Radio fellowship into his back yard for picnics and has hosted Field Day there. Larry contributes tirelessly to Amateur Radio, and always does it with a smile and a kind word. We are happy to recognize his contributions"

This award was followed by Racine Megacycle Club's "Ham of the Year". The selection committee is made up of the three previous year's selectees. This year's awardee is Larry McCalvy, WA9JMO.

I was almost speechless, until someone placed a microphone in my hand. But folks, I felt very very special. I had been chosen by two groups of my peers to be publicly honored. Either award in itself is paramount to anything I could possibly imagine. And I stood at the evening's conclusion with two recognition awards. All I can very humbly say is thanks!

73, Larry McCalvy, WA9JMO



## Washington County Amateur Radio Club

**Tom Waldschmidt, N9LZW,**  
Secretary  
465 Elder Lane  
Allenton, WI 53002-9799



**Club Repeater: 146.73 MHz**

<http://www.nconnect.net/~WCARC>

### MEETING MINUTES March 13, 1997

The March, 13, 1997 meeting of the Washington County Amateur Radio Club was called to order at 7:35 p.m. by President Gary Sutcliffe, W9XT. There were 8 members present. Gary began by asking those present to introduce themselves.

The minutes of the February 13, 1997 meeting were read by Secretary Tom, N9LZW. Rip, W9SIZ, said the minutes should read that the newly installed president had thanked the 'old' officers for serving in their capacities, not the 'new' officers. There was a motion by Brian, KB9NLF, seconded by Bill, N9IBU to approve the minutes as amended. Motion carried.

The Financial Report was read by Secretary Tom, N9LZW. There are presently 35 paid members in the club. There was a motion made by Rip, W9SIZ, seconded by Bob, AA9EF, to accept the Financial Report. Motion carried.

### ARES REPORT

An ARES report was given by Walt, N9LLS. Walt said that we will be having a joint meeting with OZARES on March 27th, at the Ozaukee County Justice Center. He also said that he had purchased a video from the ARRL and was planning to show a portion of it to those present following the meeting. Walt also said that he was planning to have a meeting in the Emergency Government Office following next month's breakfast scheduled for West Bend. The date was not available at the meeting but is April 19th. The breakfast is at Woodview on E. Washington St. in West Bend on that date.

### REPEATER COMMITTEE

Gary, W9XT, explained that the PL hardware for the repeater was not in stock and that he has notified Don, K9GR, by E-mail.

### OLD BUSINESS

Jim, KB9LTW, discussed the proposed LAN frequency. He said he had contacted the WAPR frequency coordinator and that it looks like 145.010 may be available to us. It was formerly a backbone frequency but is no longer being used for that purpose. Jim also discussed a proposed BBS for the area. A couple of members have suitable locations and have offered some equipment such as computers for use on the system. Examples of equipment that will be needed are a tnc, radio, and software.

### NEW BUSINESS

Tom, N9LZW, made a motion to authorize the Treasurer to draft a check for \$20.00 to renew the club's membership in WAR, the Wisconsin Association of Repeaters. The motion was seconded by Walt, N9LLS. Motion carried.

Jim, KB9LTW, suggested some type of contribution to the St. Lawrence Fire Department be considered in appreciation for providing facilities for our repeater. He discussed a possible donation for toward their annual raffle if they have one. The idea of a donation of some type was favored by many of those present.

Rip, W9SIZ, questioned if the club was still affiliated with the ARRL. Secretary Tom, N9LZW, explained that we were and that the club was required to have at least 50 percent of its members as

Continued on page 15

## Red Cedar Repeater Association, Inc.

**Steve Hart, KA9OMC, Secretary**

E616 810th Avenue

Knapp, WI 54749

**2-Meter Repeater: 146.01 Input/146.61 Output**

Greetings, RCRA sponsors and guests.

Time for some RCRA one-liners:

- N9PPE, Jeff, and KB9NIR, Scott, are going to try some 10 GHz from Cedar Falls to Bloomer.

- W9AVM, Jim, and YL, N9ISR, just returned from their trip to Arizona.

- WB9YMB, Jim, and his XYL, spent a week in Cancun watching the dolphins push the swimmers around in inner tubes in the ocean.

- KB9LUK, Jim, has a commercial 440 MHz repeater for sale or trade for a TNC. Contact Jim at this address: Jim Kinney, E3078 70th Avenue, Eau Galle, WI 54737.

- N9RSU, Leroy, has a 440 MHz repeater for sale. Contact Leroy at (715) 836-9335.

- WJ9Y, Marlin, and KE9VA, Rolin, both acquired horses this winter and will be busy building fence this spring.

- KB9PSR, Adam, in Eau Claire, has recently picked up his ham ticket. Adam is a sixth grader and is anxious to make contacts on 2 meters.

- KB9PJL, Bob, in Eau Claire, is looking for info on solar cells.

- K0AZB, Craig Anderson, is moving from Menomonie to near Hudson. Craig has two towers for sale. Contact Craig at (715) 235-6046.

- N9TOW, Doug, is entering the Marines. Entry point is San Diego.

- NQ9X, Ed, and YL Helen, will celebrate their 50th anniversary April 13 at the Lutheran Church next to their home south of Pleasantville.

- KB9LFH, Larry, and KB9PTA, Rebecca, are new hams at Rock Falls.

- NX9F, Jim, reports that this year's SkyWarn training will be April 29 from 7

to 9 p.m. at the courthouse in Menomonie. Advance notice of attending should be given to Ed Goldsmith at (715) 232-2333.

The most recent gathering was the annual auction, held in Eau Claire on February 25. Attendance at the auction was 104. Participants displayed over 15 tables of gear and equipment. Our sincere thanks to all who made donations, attended the event, and a special thanks to buyers and our auction team. Yield at the auction was over \$1400.

### 1997 Eau Claire Auction Team

Bruce Walther, W9QAH Auctioneer

### Kitchen Helpers

Arlene Kraft KF9CU  
Judy Holtzman KB9MAU  
Delores Wendt  
Terry Wait

### Auctioneer's Assistants

Ernie Wendt W0LUY  
Rusty and Todd Holtzman  
Rod Steele N9WJY  
Glenn Thompson N9TTV  
Jeff Wait KB9MMT  
Steve Hart KA9OMC  
Jim Humphrey W9AVM

### Door Prize Donors

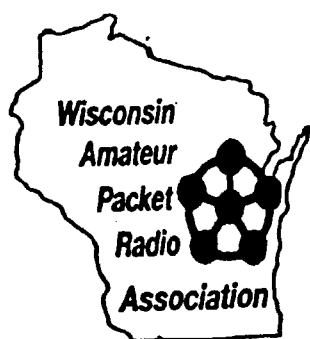
Rich's Surplus, Stanley  
Tim Rose, WB9PMF, and Hubbard Scientific

The last social hour for spring will be April 22 at 1414 9th Street, Menomonie. Meeting place is the Peppermill Restaurant at 7:30 p.m.

Steve Hart, KA9OMC  
RCRA Secretary/Treasurer

Participating clubs: Please be sure you send your information for publication to K9ZZ no later than five days after your club's meeting. If you will NOT be sending any info, please tell us.





# THE WISCONSIN PACKETEER

Wisconsin Amateur Packet Radio Association

Bob Gedemer, KA9JAC

609 Wilson Street • Neenah, WI 54956

Andy Nemec, KB9ALN, Editor • 720 N. Broadway (Upper West) • Green Bay, WI 54303

## WAPR News - April, 1997

Happy April Fools! This year we seemed fall victim to an early prank of sorts in the form of a heavy March snowstorm. It seems that my words were somewhat prophetic in this column last month. For that, I apologize. But do hope you can "keep on smilin'" through it all.

I received a nice note via packet from Rich, AA9L near Milwaukee. One of the inquiries he made of me concerned the WAPR web page. He wondered when it was due to be updated. Yes, by the time you read this, you should be able to see the updated Web Page. Point your browser to <http://www.netnet.net/~ke9lz/> and look for the index. It should be fully updated with all of the "Using the Wisconsin Network" parts in it, along with links to the new TAPR digital frequency listings.

Rich also expressed interest in my mention of data decode error prevention and the results of my experiments. I will tell you the basics - that the concept of TNC/Radio isolation does indeed seem to make a measurable performance improvement. It seems that getting rid of ground loops is of benefit, and I have seen perhaps a 50% improvement in my situation (maybe even better than that). Unfortunately, a blow-by-blow account of what was done and how would take more space than I can take here. But I will fill you in on the basics, should you decide to try this out yourself.

The isolation network includes a 1:1 audio coupling transformer that is available from Radio Shack. If you have an old junk telephone (dead cordless phones are great for this), you can rob the coupling transformer out of it. The important thing is to have a transformer with a 500 ohm primary and secondary windings. This couples the microphone audio from the TNC to the radio, while separating the grounds.

The second transformer required for this is one with one 8-ohm and one 500 to 1000 ohm winding. This separates the radio audio path from the TNC ground. Radio Shack also sells a transformer for this purpose, but it is extremely low-power. It is simply mandatory to have a resistive voltage divider between the radio and the 8 ohm winding of the transformer. This will keep the transformer from getting the "Unintentional Power Conditioning" that will surely ruin it. I do not have the resistor values calculated yet as I am using a different, higher-power transformer. That transformer uses a different attenuator than what is required for the Radio Shack transformer. If you are handy with Ohm's law and the power law, this should be no problem to calculate, though. In addition, the final plans call for a pair of limiting diodes placed across the transformer primary to prevent destructive overdrive.

Next, isolate the PTT line with a simple reed relay, also

available at Radio Shack (no, I don't work for them!). The relay coil is powered from the TNC power source, and is keyed by the TNC's PTT terminal. A diode is placed across the relay coil (cathode to the supply voltage) and the contacts go to the radio PTT wiring.

Naturally, the ground path to the radio must not come into contact with the ground path to the TNC inside of the interface (that is the whole reason for the interface). If you house the isolation network in a metal box, do not connect either ground system (the TNC or the Radio) to the metal case. Instead, connect the box to your station ground bus. Some other pointers:

- Use a shielded serial cable. Do not remove grounds from this cable in an effort to reduce ground loops. It will generally make little or no difference, and removing one or more of these grounds may well make a great deal of computer-generated RFI that you don't need.

- If at all possible, dedicate a power supply to the radio used for packet, don't share it with

another radio, and certainly not the TNC.

- Use a master station ground bus, and make certain that all connections to it are truly good RF grounds (no skinny wires here).

Once I constructed the isolation network, I found out two things. First, the receive decode sensitivity seems better. So the volume level on the radio will have to be readjusted. Second, the transformer has a certain amount of loss involved, so the AFSK level coming out of the TNC will have to be increased to compensate for this.

I have noticed a great drop in the number of mangled packets, and have found it to work rather well. If you do plan on building it, please let me know what your results are (good and bad).

And that is about all I have space for. It is my hope to make this a real step-by-step project. If it is published, I will certainly let readers know where to find it, and when.

Keep looking for the announcement concerning the WAPR Spring meeting on your local BBS. We will be meeting soon, and you are invited!

That is all I have for this month. As always, I invite your comments, suggestions, and input. My BBS address is: KB9ALN@KB9ALN.#GRB.WI.USA.NOAM

Until next time, 73 from Andy.

## Using the Wisconsin Network - Part 26 by Andy Nemec, KB9ALN

In recent installments of this series, we have been looking toward the future, and investigating what the networks of the future might look like. We broke the whole process of leaving a message to a friend down to a step-by-step procedure, and talked about how each part of the network and you interact.

One thing we discovered was that packet radio messaging has one comparison - the internet. We also discovered that the protocol set used by the internet, TCP/IP is in wide use by a number of amateur stations. While the TCP/IP amateur implementation does not exactly duplicate the internet, it is very close, with some accommodation of our unique radio environment. The main attraction of the internet is the simplicity, and the capabilities presented by an open, transparent network. We also talked of the Network Interface Host Computer as being a gateway for users to the network.

Now some of you might be thinking "Geez, now he wants me to learn some other program and run TCP/IP". Well, not exactly. However, the network of the future may very well include many elements of the internet, adapted for Amateur Radio use. Your station may become a vital part of a TCP/IP network, if you choose, or you could remain with your current station and still utilize the services of the Network Interface Host Computer. This is similar to what we now use, the node stack. Instead of a conventional node stack, the host computer would perform routing and the conversion of the TCP/IP protocols to/from your current AX.25 protocol. Even though you use AX.25, you would still be able to take advantage of some advanced features of this type of arrangement. In the final analysis, you could have a greatly enhanced packet station with little changes in your actual hardware or software, if you so desire. The main difference would be in learning new terminology and new functionality.

We have covered most of the differences between what we now use and what we could use. And we are not quite ready to make the big jump into radio "cyberspace". But we are close. I mentioned some of the things that need to be added or improved to make these advances a reality. Here is a rundown of what is needed.

First we need to improve the AX.25 protocol if we are going to continue to use it. There are "spaces" in the AX.25 protocol that allow for expansion without scrapping the entire system. One such extension needs to be the addition of forward error correction. Remember that our current

protocol will not correct errors, only detect them and allow for a corrupted packet to be resent. Some packet operators have used AMTOR in the past, and recall that it uses one of two modes. One is "FEC" (Forward Error Correction) and the other is "ARQ" (Automatic Repeat Request). Right now, packet "gurus" are working on this very problem, improving the protocol so that AX.25 can be made more reliable. AX.25 is really an adaptation of the X.25 protocol originated by the telephone industry, and is not well suited for the kinds of things we are trying to do. At the same time, we do need to have the capability to use the existing protocol so that all the current TNC's will still be useable. This is what we know as "Backward Computability". The next need is the ability to maintain reliable routing tables amongst network hosts using TCP/IP. There is one promising protocol called "RSPF" (Radio Shortest Path First). It needs to be refined and perfected before it can see wide implementation. Once done, it has the prospect of becoming far more effective than the current Net/Rom system. RSPF actually measures the time it takes to get to a given destination, rather than assuming that a route broadcast is good.

One other thing we touched on was the need for programs that are "User Friendly" and interact with the network in a transparent manner. Microsoft's Windows seems to be a very popular user interface to a computer, and it also has some TCP/IP capability available to it. This is, potentially, a good situation for the software writer - adapt what is there without starting from "square one". This is a good way to incorporate new AX.25 protocol extensions too, with the ability closely control the TNC. Most TNC's have the capability to operate in the "KISS" mode. This allows the computer connected to it to perform most of the processing of packets, making it easier to utilize protocol extensions. Of course we would not want to leave DOS users in the dust, work would have to be done there as well. It should be possible to use a good many of these advanced function on a relatively simple computer. I (and others) have run TCP/IP programs on 8 MHz 8088 computers with V-20 processors installed. All of this was done with MS-DOS 3.3 as an operating system. To sum it all up, we can run advanced systems without spending a huge amount of money for hardware upgrades.

Working hand-in-hand with the software approach is the ability to assign temporary IP addresses. You recall from our last part of the series that there are a limited number of IP addresses available. Anyone who has used a PPP Internet service has used a form of this. PPP is the internet "Point-to-Point Protocol". When you use Netscape, you are very likely using this protocol and may not even know it! Therefore, if one were to decide to take advantage of the more exotic aspects of a new network, the Network Interface Host Computer should be able to accommodate this. Currently, this is being talked about as a solution to Mobile/Portable TCP/IP packet radio operation. And it would allow for easier setup of the end-user program.

We also need to maintain a good, high-speed radio network. Maintenance not only involves constructing a

network and making sure all the radios and devices function. It also keeping the databases and host configurations up to date. WAPR helps to build and maintain the Wisconsin network, but it always is a struggle in a volunteer network such as we have. Skilled people who understand networking are in demand for both the radio and "software" types of work.

The last thing we need to move to the "next step" is the willingness to try new things. Obviously, we can't experiment with a whole statewide network all at once, but we can experiment locally and regionally. And we can spend more time reading about and learning new ways of connecting

our computers to share information. At the same

time, we can't make what is in place obsolete. Many people have too much invested in their current hardware and do not wish to change from their current operating setup. It suits their needs, and they are comfortable with it. So we need to improve the system without "throwing the baby out with the bathwater". And that is the next direction we will take in this series. Next time, we will look at what you can do to make your packet life a little easier - automated - with little or no change in hardware or software, just configuration.

Until next time, 73 from Andy.



# SSB

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FOR SALE: 2-meter all mode, Kenwood TR-751A, less than 2 years old, never mobile. Will trade with cash for a TS-690S. WS9t, (414) 685-5018.

FOR SALE: Following is a listing of used Amateur Radio equipment for sale by: Fred Foss, W9TRU.

I have been instructed by Mrs. Fola Fietz (Power of Attorney) for Mr. Foss to sell this equipment. Mr. Foss is 94 years of age and resides in a Nursing home in Columbus, WI. He is unable to operate any type of technical equipment including the remote control on his television.

This is all used equipment and will be sold in As Is Condition with no guarantees. The general operating condition of each piece is in a comment at the end of each item.

I have no estimate of the value of this equipment, but if I judge your offer to be OK, the piece is sold.

There are some very good buys available here. Repair costs are much less than the purchase of new equipment. I would appreciate you informing your fellow amateur operators and radio club members of these very good buys.

Give me a call on the land line or drop me a letter for the items your are interested in and the price offered for the same.

John R. Doleshal, W9NF  
835 S. Birdsey St.  
Columbus, WI 53925-1410  
(414) 623-3809

Yaesu FT-212RH mobile transceiver ser. #10610808 - 2 meter FM - MH-15-C8 microphone. Operating manual, (Recently removed from vehicle).

Avanti AP151.3G mobile antenna - 144.174 MHz 3db gain - attaches to glass. (In use at present time on vehicle)

Yesu YC-500J frequency counter ser. #6N402282 - 10 Hz to 500 MHz. Operating manual. (In operating condition).

B&W 550-A antenna changeover switch.

Swan WM-1500 rf wattmeter ser. #296675. Operating manual. (Has been in operation - Looks like new).

HiGain H-IV antenna rotor with CD-45-II controller. Operating manual. (New never used)

Rohn 45 fold-over tower. 56 ft with attached

## Washington County Amateur Radio Club

Continued from page 13


members of the ARRL to maintain the Affiliated Club status. Membership in the ARRL includes a subscription to QST. Gary, W9XT, explained that our amateur radio frequencies are in jeopardy, being sought after by commercial interests. The ARRL represents us in Washington to protect the frequencies that we have left. Most recently, our 2 meter and 70 centimeter bands have been targeted.

### ANNOUNCEMENTS

Tom, N9LZW, reminded members that there will be two sessions of Severe Weather Spotter Training at the Kewaskum Fire Department on March 20, 1997. One at 3:00 p.m. and another at 7:00 p.m. For those that can't make it, Severe Weather Spotting is expected to be the topic at our joint meeting with OZARES on March 27th.

Tom also reminded members of the Foundation For Amateur Radio Scholarship that is available to interested college students. Applicants must be enrolled in electronics related courses. (BSSS editor's note: See January and February BSSS.)


Tom, mentioned that the Lamarsfest will be held on March 23 in Grayslake, IL and that the Six Meter Club of



## Yellow Thunder Amateur Radio Club

WB9FDZ (Original Club Call)  
K9ODK (Robert L. Prine Memorial Call)

Raymond J. Matlosz, N9MLZ, Secretary  
450 West 2nd Street • Reedsburg, WI 53959



The March 13, 1997 meeting of the Yellow Thunder Amateur Radio Club, Inc., was postponed and rescheduled due to the snowstorm that night. The meeting was held Thursday March 20, 1997 and called to order at 7:45 by Steve Schulze, N9UDO, club president.

Announcements: Skywarn training session scheduled for Saturday March 22, 1997 in Madison.

Minutes for the February meeting were unavailable for review. There was no treasurer's report.

OLD BUSINESS: Bill Hommel, KA9QFJ reported that club insurance through ARRL would be \$325 for one year. A motion was made and seconded to purchase the insurance. Members present then spent a good amount of time planning for the club's first swapfest.

NEW BUSINESS: discussed the upcoming swapfest in Madison April 13 (as well as swapfests in Adams county and Dayton, Ohio).

winch. )There may be 3 guy anchors? Wait until the snow is off the ground.

Cushcraft R5 Vertical antenna. 10, 12, 15, 17, 20 meter bands. Assembly manual. (In use as of this date, about 5 years old)

Telex Hy-Gain 203BA-S. 20 meter 3 element. Assembled but never placed in service. Will disassemble when the weather is a bit warmer.

Kenwood TS-820 transceiver ser. #630337. MC-50 Desk microphone. Operating manual. New in Feb. 1978, original cost \$1098. The receive section is not in operation. Transmit operation not checked. I was told there is a defective relay in this rig.

Brad Thompson Industries Mod. LK-2000 linear amplifier ser. #1776. Year 1976. 115/230 volt single phase input. Uses a 3-1000Z triode tube which is included. DL-2000 dummy load. Operating manual. Not in operational condition. Blows 10 amp fuses in primary power circuit. Could be the filter. Capacitors are old and dried out. Several new capacitors included. Appears to have been stored in owners basement as metal surfaces are stained and cloudy.

3 Amperex #5868 triode amplifier tubes. Were used in place of the 3-1000Z. Cost new about \$700 each. Condition unknown. May need to be sent for rebuilding.

Amperes #866 rectifier tube. Condition unknown.

3 Eimac #VT129/304TL transmitting tubes. Condition unknown.

Kenwood TR-2400 transceiver ser. #0090180 2 meter FM hand held with charger and operating manual. Internal battery pack missing. May not be operational. Does not look too good.

Kenwood TR-7730 transceiver ser. #2031255 2 meter FM. 13.8 volt dc input with operating manual. Condition unknown.

National NCX-5 transceiver ser. #8820701. XCU27 crystal calibrator, remote power supply,

Chicago will be holding its annual Hamfest on June 8th in Wheaton, IL.

Gary, W9XT, informed club members about the W9DXCC Convention to be held in Rolling Meadows, IL on September 6th. Gary said that an Icom 706 was one of the prizes given away last year.

Gary announced that AES in Milwaukee has testing for amateur radio licensing, and no-code license classes available.

There was a motion by Rip, W9SIZ, seconded by Bill, N9IBU to adjourn the meeting. Motion carried. Meeting adjourned at 8:13 p.m.

Following the meeting, members viewed portions of a video tape purchased from the ARRL by Walt, N9-LS.

### Club Calendar

April 03, 7:30 P.M., Net, 146.730  
April 05, 9:00 A.M. Breakfast, Parkside, Jackson  
April 10, 9:00 A.M., Membership meeting, Courthouse, West Bend  
April 12, 9:00 A.M., Breakfast, Mineshaft, Hartford  
April 17, 7:30 P.M., Net, 146.730  
April 19, 9:00 A.M., Breakfast, Woodview, West Bend  
April 24, 7:30 P.M., Net, 146.730  
April 26, 9:00 A.M., Breakfast Corfu, Hubertus

FOXHUNT scheduled for the May 14th meeting at 6:30 p.m.

There was no buck night drawing. Meeting adjourned at 8:40 p.m.

NEXT meeting will be Tuesday April 15, 1997 at 7:30 p.m. room 14 at the Baraboo Civic Center. Fox hunt May 14.

Sincerely,  
Raymond J. Matlosz, N9MLZ, Secretary

The following members and guests were present:

Allan W. Johnson	A7CS	Fort Atkinson
Raymond J. Matlosz	N9MLZ	Reedsburg
Bill Hommel	KA9QFJ	Baraboo
Steve Schulze	N9UDO	Baraboo
Bill Klinkner	N9KXX	Sauk City
Anne Klinkner	N9PQL	Sauk City
Patrick Klinkner		First Harmonic Sauk City

speaker and operating manual. Shure 440SL deck microphone with PTT. Short in the power supply. Smoke test was used.

Yaesu FT-221 transceiver ser. 6D060502 2 meter FM with operating manual. New in Feb. 1978. Original cost \$629. Condition unknown, appears to have has some hard use. Receive end is dead.

MARS SW-10 standing wave indicator with instructions. Condition unknown.

Eico 435 oscilloscope ser. #4706 Hi-pot prob. Operating manual. Condition unknown.

Regency HR-2A mobile transceiver ser. #04-06994 2 meter FM. 6 channel crystal control with frequencies: 16/146.76 and 16.34/16/94 in use. Model 0-107 power supply. Operating manual. Condition unknown.

Hi-Q Balun. In operation.

Philco Corp. BC-221-AA frequency meter. U.S. Army issue. .125 to 20.000 MHz. Battery operated. 6 and 135 volt dc. Vintage 1940s.

50 ft length coax cable #RG-58 with connectors. Used.

100 ft length coax cable #RG-8U with connectors. Used.

50 ft length coax cable #RG-8U with connectors. Used.



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CENTER

WAUKESHA, WISCONSIN

SUNDAY

JANUARY 11, 1998

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Madison, WI 53708-8890

Swapfest Information Line: (608) 245-8890

SOUTH MILWAUKEE AMATEUR RADIO CLUB

### SWAPFEST 97

July 12, 1997

(Held every July)

American Legion Park

Shepard Avenue • Oak Creek, WI

(414) 762-3235

Extension 58

P. O. Box 102

South Milwaukee, WI 53172

### Fox Cities Hamfest

Sunday, November 2, 1997

Starlite Club, Hwy. 55 north of Kaukana

HAMFEST INFO:

Chad Pennings, N9PRC

318 E. Brewster St.

Appleton, WI 54911

(414) 759-0799

EXAM INFO:

Larry Siebers, KD9IA

(414) 759-1167

### Lakeshore Hamfest

and Computer Swapfest

Manitowoc County Expo

Intersection of Hwys. 42-151 and I-43 on Cty. Hwy. R

Saturday, May 10, 1997

For more information, call:

Glenn, AA9MT: 414-684-7096

Red, N9GHE: 414-684-9097

ManCoRad Radio Club • P.O. Box 204 • Manitowoc, WI 54221-0204

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414-563-6381

Evenings

20th Annual

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Sunday, June 8, 1997

8 a.m. to 2 p.m.

JUNCTION CITY VILLAGE PARK

Info: John Feliz, WA9LWJ

(715) 457-2506

973 E. First Street

Junction City, WI 54443

Eau Claire Amateur Radio Club

### SWAPFEST

Saturday, July 12, 1997

Eau Claire County Fairgrounds

Intersection of Highways 93 and I-94

Carol Ceraso • (715) 723-9205

Liz Searing • (715) 834-1303

P.O. Box 1867 • Eau Claire, WI 54701

<http://www.edp.net/~mceraso/hamfest.html>

### RACINE HAMFEST 97

Sunday, July 27, 1997

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Ozaukee Radio Club

### 19TH ANNUAL RADIO AND COMPUTER SWAPFEST

Saturday, May 3, 1997

8 a.m. to 1 p.m. • Circle B Recreation Center

Intersection of Highway 60 and County I

Exams by Badger Examiners, c/o Gary Sharbuno,

5119 W. Willow Rd., Brown Deer, WI 53222

Swapfest sponsored by the Ozaukee Radio Club

W58 N985 Essex Drive, Cedarburg, WI 53012-1439

Adams County Amateur Radio Club

### SPRING HAMFEST

Sunday, June 1, 1997

Adams County Fairgrounds

West of Hwy. 13 on Cty. J • Friendship, WI

8 a.m. to 2 p.m. • Seller Setup at 7 a.m.

Talkin on 145.29 Adams Repeater

Adams County Amateur Radio Club

Friendship, WI 53934

P. O. Box 232

(608) 564-7887

Packet: N9TD-1 on 145.03

Red Cedar Repeater Association, Inc.

### AUCTION

February 24, 1998 • 7:00 p.m.

American Legion Post 53 • 634 Water Street

Eau Claire, WI

CONTACT:

Steve Hart, KA9OMC

E616 810th Ave.

715-665-2374

Knapp, WI 54749

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